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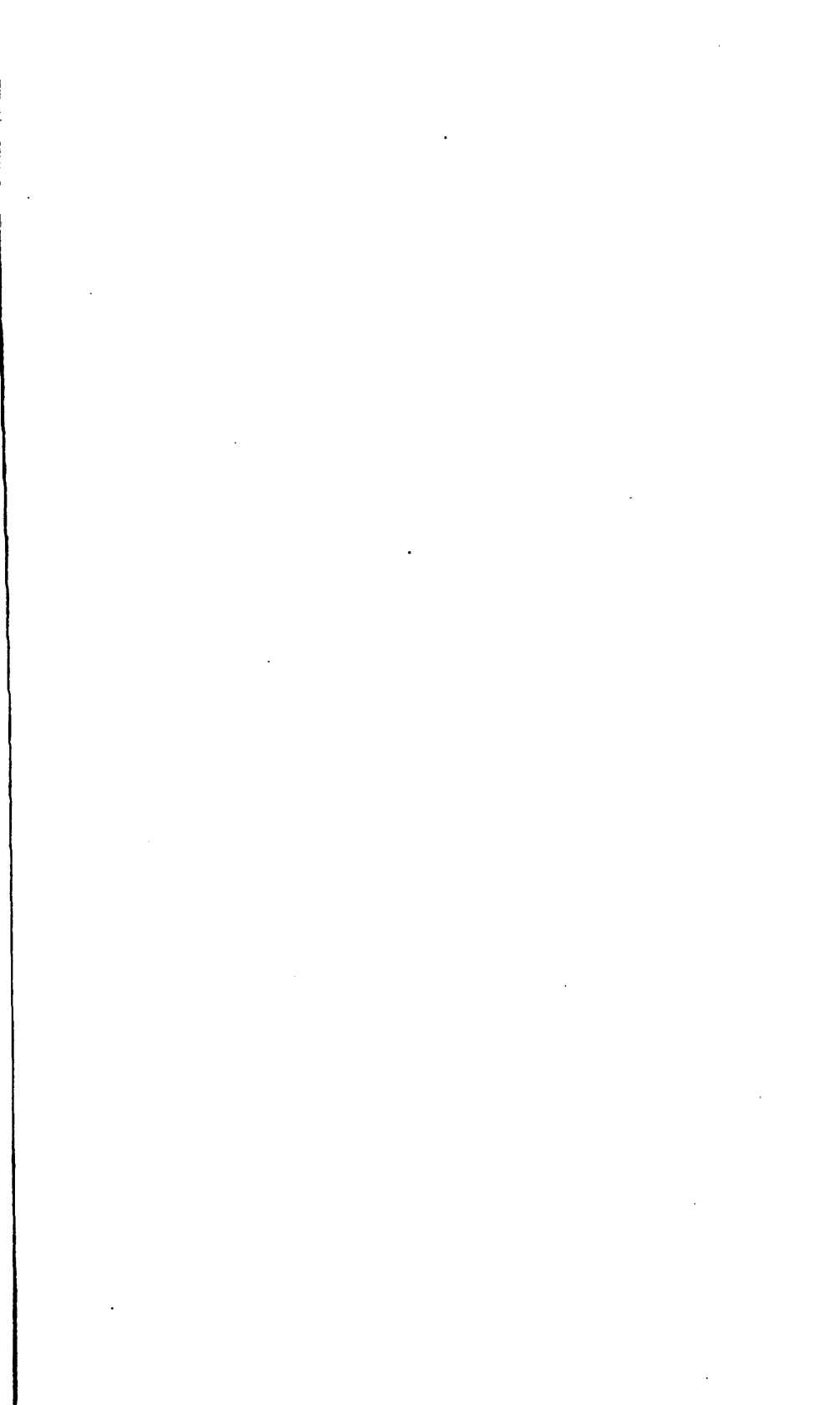
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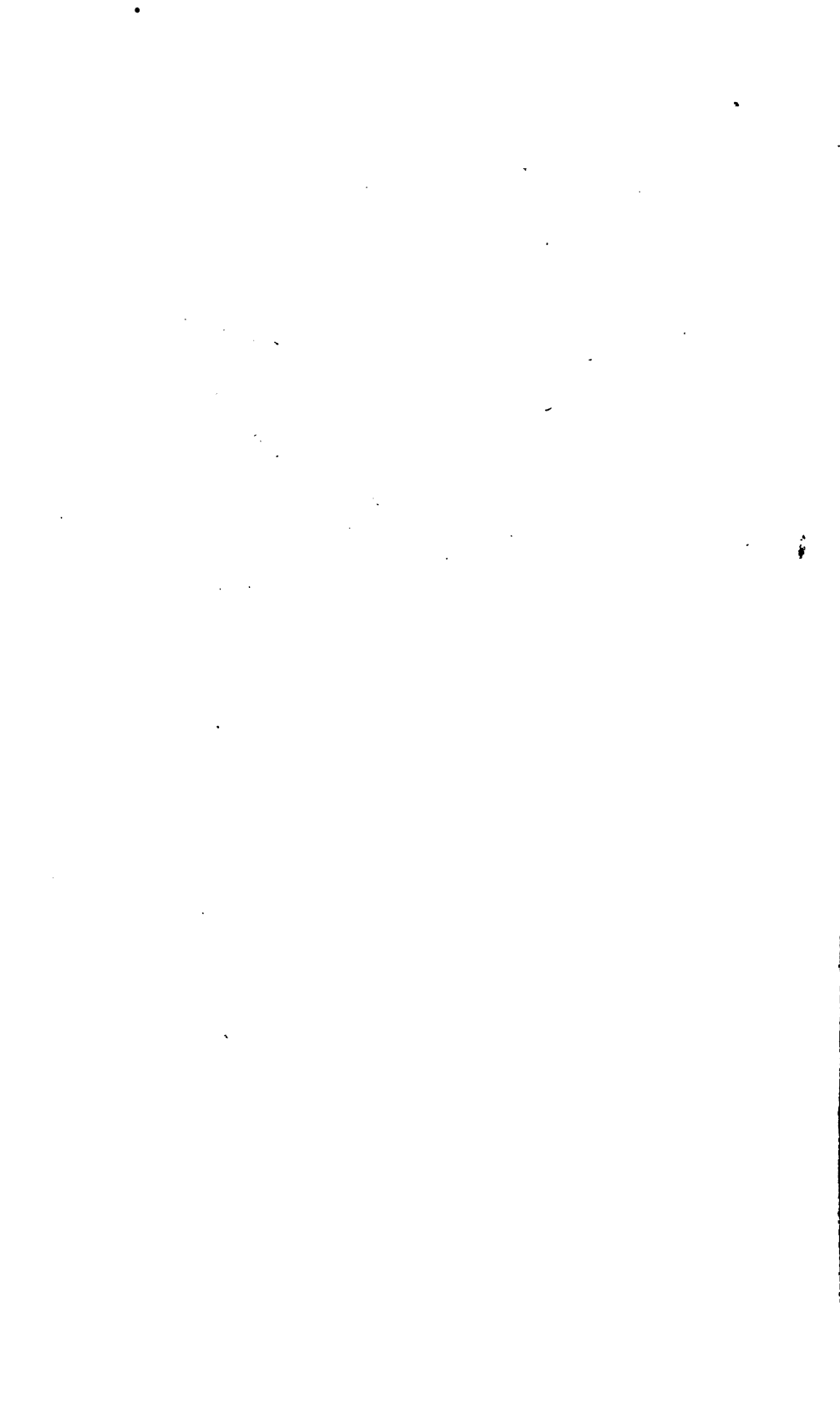
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THE OPHTHALMOSCOPE

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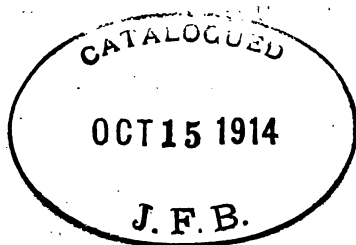
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OPHTHALMOSCOPE

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

VOL. I.—No. 1.]

JULY, 1903.

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OUR PROGRAMME.

IN introducing a new Journal it is customary to offer a few words as to the scope of the paper and the aims of the management. With this custom we willingly comply.

The *Ophthalmoscope* has been founded for several reasons, the more important of which may be briefly referred to. In the first place it has been felt that the technical literature of eye work is not represented in this country altogether as fully and adequately as it deserves. While Germany, France, America, and other countries each support several journals devoted to the different departments of eye work, there is only one such periodical in Great Britain. It is true that there are two other special publications (both of great scientific value), but one of these represents the Ophthalmological Society, and the other the Moorfields Hospital. The public to which they appeal is therefore somewhat different from that for which a monthly periodical caters. In short, there appears to be an opening for a new journal dealing with ophthalmology, especially in relation to general medicine and surgery. The latter relationship we regard as

vital, as we are convinced that the future advances of ophthalmology will be closely bound up with progress in the wider departments of general work.

Then, we think that by providing a complete bibliography, with English abstracts of all suitable communications, something more might be done to familiarise British ophthalmic surgeons with the work and literature of countries other than their own. It is not always possible for busy men to refer to journals in foreign languages. Moreover, many of the periodicals that will be reviewed in our abstracts are by no means easy to procure in this country, even by surgeons who have access to the well-equipped medical libraries of the metropolis. Our abstracts of current ophthalmological literature will date from January 1st, 1903. They will be contributed by competent writers, fully conversant with the subject, and in close touch with the progress of ophthalmology in the countries which they individually represent. Care will be taken to ensure the completeness of the bibliography and the accuracy of the abstracts.

The *Ophthalmoscope* will publish original papers of two kinds: first, those dealing with important special subjects, and, secondly, brief clinical or pathological memoranda. Papers of both kinds will be welcomed.

New remedies, instruments, and so forth, will be noticed in our pages as promptly and fully as may be.

Books connected directly or indirectly with eye work will be reviewed in our columns. In this department we shall take care, to use a familiar phrase, that "naught is extenuated and naught set down in malice." In brief, our aim will be to express an honest opinion upon any work submitted for review, irrespective of the views of any particular school.

The *Ophthalmoscope* will welcome correspondence from its readers. Lastly, it will from time to time contain general items likely to interest those who are connected with eye work, its progress, aspirations, and results.

ORIGINAL COMMUNICATIONS.

THE OPERATIVE TREATMENT OF MYOPIA.

By W. ADAMS FROST, F.R.C.S.,

OPHTHALMIC SURGEON TO ST. GEORGE'S HOSPITAL; SURGEON TO THE
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THE admission of the surgical treatment of myopia into the sphere of practical surgery may be said to date from the publication of Fukala's monograph in 1891.

It is true that the suggestion to cure myopia by extraction of the lens was made as long ago as 1776, but the operation of extraction was itself somewhat new, and the percentage of successful operations, even in cases of mature cataract, were not such as we should now consider satisfactory. If, therefore, attempts were really made to remove transparent lenses by this method, it is extremely improbable that they were attended by any large measure of success. Weber, again, proposed this operation for myopia in 1858, but the suggestion does not appear to have been favourably received. Donders, writing in 1864, mentions the suggestion merely to cast ridicule upon it, pointing out its danger, and raising the curious objection that the accommodation would be sacrificed. As the operation is limited to patients who would only require their accommodation when looking at objects less than three inches from the eye, this objection is hardly worthy of its author.

More recently Landolt mentions removal of the lens as capable of curing a certain degree of myopia, but is evidently of opinion that the operation is not justifiable when the lens is transparent, and adds that, even if performed with success, it would only cure myopia of a definite degree. We shall presently see that this latter statement is erroneous, and that any degree of myopia over 15 D. can be practically cured by the operation.

The proceeding has now been on its trial sufficiently long for us to form some idea of its practical utility, and of the permanence of its results.

First, with regard to the cases suitable for the treatment, there are general considerations of age, health, and the condition of the other eye, and the special consideration of the degree of the myopia.

Young adults are by far the most suitable subjects, and these fortunately constitute the large majority of those to whom it is applicable. High myopia is not very common in young

children, and when it occurs the fact that it is likely to be rapidly progressive, places these cases in a category different from those to which the operation is usually applicable. I do not mean that such cases are necessarily unsuited to the operation, but each requires individual consideration. Persons in middle life, also, have usually become accustomed to wearing glasses; they have adopted their course in life, and, generally, would rather bear the ills they have than fly to others they know not of. It is otherwise with the young adult starting work. In many occupations glasses are a great drawback—they are, in fact, prohibitory of many employments. They are unsuitable for out-door work in wet weather, and they are a source of danger in many manual callings, owing to a risk of their being broken. Moreover, many employers, both of labourers and of domestic servants, would rather have employés with defective eyesight than see them wearing glasses.

Of my 31 patients (33 eyes) to which this paper refers, only four were over thirty, the average age of the remainder was 19½ years.

Of the older patients the following facts may be noted:—

(12) Woman, aged 40; there was a posterior polar cataract, and some choroiditis. The first discission was followed by increased tension and vomiting, necessitating a paracentesis. The case did well, but the result was only $\frac{6}{24}$.

(14) Woman, aged 39; preliminary iridectomy, later attempted extraction, which was abandoned in favour of discission. Result, $\frac{6}{36}$ without glasses, and $\frac{6}{12}$ with.

(21) Man, aged 48; this was a private patient of some intelligence, and the operation was performed at his request, because he disliked wearing glasses. Preliminary iridectomy, discission, and curetting. Result, only $\frac{6}{36}$.

(24) Woman, aged 35; no complications. Result, $\frac{6}{18}$ with glasses. Went about without glasses, and was satisfied with the result.

At present, most surgeons would probably agree that the operation is not advisable unless the other eye is a useful one.

A most important consideration is the degree of the myopia. Nearly all uncomplicated cases of myopia up to 8 D. see well with fully-correcting glasses, and some do so whose error is as high as, or even over, 12 D, but as we get into the higher degrees the proportion of cases in which glasses give good vision, and in which they can be worn with comfort, becomes much diminished. Indeed, unless glasses have been worn since the myopia was first discovered it is seldom that a myope over 15 D. can obtain good vision with them, even although no choroidal changes are present. This is partly because the

strong divergence produced by the concave lens allows fewer rays to enter the pupil, and partly because such glasses give small retinal images, conditions which are both due to the fact that the lens has to be placed a certain distance from the eye. Some patients seem to experience discomfort from the mere sharp definition produced by the glasses.

In reference to this part of our subject it may be pointed out, in passing, that, when correcting glasses can be worn, surgeons in this country do not hesitate to prescribe them, and the general opinion held here is that the wearing of fully-correcting lenses has no injurious effect. The contrary view is held in many places, especially in France. Thus Landolt gives this rule, and emphasizes it by printing it in large type: "A myope must be prohibited from wearing a concave glass for any distance at which he can see clearly without accommodation."*

Unfortunately a considerable number of those myopes who cannot wear fully-correcting glasses have a degree of error unsuited to the operation we are considering, for to get any benefit proportionate to the risk and inconvenience involved, we must be able to say that after the operation there shall not be an error of more than 3 D. This condition is fulfilled in the case of myopia ranging from 12 D. to 37 D. We shall see, later on, how these limits are arrived at. Myopia over 30 D. is so rarely met with that the upper limit may be disregarded, and we may say that the operation is only suitable for myopia of 12 D., or over.

To establish this proposition it will be necessary to consider in some detail the optical effect of the removal of the lens—a matter with regard to which a good deal of misconception exists in the minds of those who have not given the subject their special consideration.

Our experience of the optical effect of removal of the lens has up to the present time been chiefly based on the results of cataract extraction performed on eyes which usually were emmetropic, or nearly so. In such circumstances a correcting lens of 10 or 11 D. is required for distant vision. It has been somewhat hastily assumed that if any degree of ametropia previously existed we had merely to add this to 11 D. to find the correcting lens, *e.g.*, that a hypermetrope of 4 D. would require 15 D., and a myope of 4 D. would require 7 D. As a matter of fact the lens required in the first case would be a little under 13 D., and in the second case a little over 9.5 D. The error involved here is considerable, but is insignificant compared with that which is present in the higher degrees if the calculation be made on this basis.

**Refraction and Accommodation of the Eye.* Translated by Culver, 1886, p. 490.

In reality the optical effect of getting rid of the lens (*i.e.*, the difference in the glass required before and after the operation) increases with the refraction of the eye, so that while in emmetropia the optical effect is 11 D., in myopia of 25 D. it is 25 D., in other words the operation cures the myopia.

A few facts will render this clear without having recourse to any elaborate calculations.

The normal length (*i.e.*, the emmetropic length) of the complete eye is 22·8 millimetres. The emmetropic length of the aphakic eye is 31 millimetres. The more nearly, therefore, the length of the eye approaches 31 millimetres, the more nearly emmetropic will the eye be after removal of the lens.

Nor is this all. The departures from the emmetropic length are of less importance in the aphakic than in the complete eye. While in the complete eye every millimetre of length makes a difference of 3 D. in the refraction, in the aphakic eye each millimetre only makes a difference of 1·38 D. This is because the removal of the lens converts the eye into a much weaker optical instrument than the complete eye; consequently, alterations in its length produce less effect. The conditions are analogous to the high and low powers of a microscope; with a high power the slightest alteration of the focussing screw makes a considerable difference, while the same alteration with the low power might be imperceptible.

These facts render the operation of removal of the lens beneficial to a considerable range of myopia, and to some extent support the claim sometimes made in its favour, namely, that it arrests the progress of the myopia. That it prevents the progressive elongation of the eye is improbable in the highest degree, but the continued elongation will no longer cause the same increase in the myopia.

In order to calculate the lens that will be required in a given case after operation, it is only necessary to know the length of the eye, and to divide the difference between this and 31 mm.—the emmetropic length—by 1·38. If the length is less than 31 mm.—as is generally the case—a convex lens will be required. If it exceeds 31 mm. the lens must be concave.

It must, however, be remembered that, although for convenience the degree of myopia is always expressed in terms of the correcting lens, this does not agree with the actual myopia from which the length of the eye must be calculated. In the lower degrees of ametropia this discrepancy is unimportant, but it increases with the degree of myopia, and in the higher degrees constitutes an error which cannot be disregarded.

For example, a myopia is corrected by a lens—25 D. placed 10 millimetres from the eye. The far-point is therefore 40

millimetres from the lens, but it is 50 millimetres from the eye, hence the actual myopia in this case is not 25 D. ($\frac{1000}{40}$) but only 20 D. ($\frac{1000}{50}$).

The subjoined table shows the bearing of these facts upon different degrees of myopia :—

Lens required before Operation.	Actual Myopia.	Lens required after Operation.
—12D	10·7D	+3·4D
—15D	13·0D	+2·8D
—20D	16·6D	+2·4D
—25D	20 D	+1·1D
—30D	23 D	+0·44D

The actual myopia being known, the length of the eye is found by dividing this by 0·3, and adding the result to the normal length—22·8.

For example—A myopia is corrected by—15 D., the actual myopia is 13 D., the length of the eye will be $4·3 + 22·8 = 27·1$.

This is short of the normal length of the aphakic eye by 3·9.

Dividing 3·9 by 1·38 we get + 2·8 D. as the lens required.*

At first sight it might seem that a hypermetropia of 3·0 D. in an eye having no power of accommodation would be a serious drawback, but it must be remembered that these patients are accustomed to ill-defined retinal images: no doubt they are also aided by the large size of the retinal image, and in practice it will be found that most patients even with 3 D. of hypermetropia, are able to go about without glasses, and prefer to do so under ordinary circumstances.

Before leaving this part of the subject it may be well to point out that accurate measurement of a high degree of myopia is by no means easy. Most surgeons overestimate it by the direct method of ophthalmoscopic examination. The shadow test, though more accurate, is much less reliable than in other conditions of refraction, and the patient chooses glasses so badly that test lenses are practically useless for the purpose.

If we could trust to the patient holding small type at his far-point, the accurate measurement of this would form a good basis from which to calculate the myopia. But, unless care be taken to guard against it, nearly all patients hold the type nearer than their far-point. The measurement must, of course, be made from the position that the correcting lens would occupy, and not from the eye. Dividing a metre by the distance of the far-point we get the correcting lens in dioptries.

*For a more detailed discussion of the optical question involved, see PERCIVAL, *Arch. f. Oph.*, xxiv., 1.

This method has some practical advantages. It affords a ready means of eliminating the cases in which the question of operation need not be considered. If small print can be read farther than three inches, the myopia is of too low a degree to be benefited by the operation. If, on the other hand, the smallest print cannot be read at any distance, the fact indicates that other conditions—such, for example, as choroidal changes—are present, which would prevent a good result being obtained.

This brings us to the question of the effect on the visual result of the choroidal changes which are so often present. The ophthalmoscope is a most fallacious guide in this matter. Extensive changes, apparently involving the macula, are sometimes met with in association with fair vision, and, on the other hand, the changes seen are often quite insufficient to account for the defect in the vision. This discrepancy is no doubt, due to the fact that the ophthalmoscope affords no direct clue to the condition of the most essential parts of the retina. Even extensive areas of choroidal atrophy are no bar to the success of the operation, provided central vision be fairly good. The test of this adopted by the writer is the ability to read 1 Jaeger. This does not represent a very high standard of visual acuity, because, the type being held near, the retinal image is of large size, but the test is sufficient to prove that the function of the macula is not destroyed.

With regard to the method of operating, much need not be said, as the proceedings differ in no essential respect from those generally recognised as suitable for cases of lamellar cataract. The writer, in the earlier cases, used the needle cautiously at first, and a considerable number of operations were necessary, sometimes as many as seven; more extended experience seems to show that the lens may be needled pretty freely at the first sitting, and a week or ten days later the lens matter may be evacuated, a final needling being generally required. In two cases, however, at the paracentesis after a free discission there was escape of a bead of vitreous, probably owing to the posterior capsule having been ruptured by too rapid swelling of the lens. The operation is, of course, not exempt from the accidents that occasionally follow discission for lamellar cataract.

In the following case glaucoma supervened:—

(22) Charles A., 21, myopia estimated as 11 D. horizontal and 13 vertical. Discission five times then twice a paracentesis, and a final needling. A few months after T. with dull, rough cornea; the cornea cleared and the disc was found to present a typical glaucoma cup.

Suppuration occurred in two cases, both children. (3 & 30).

Does the operation increase the liability to detachment of the retina? Until we know more about the causes of detachment, and the proportion of cases of myopia in which it occurs, it would seem to be impossible to answer this question. Six of the writer's cases returned after various intervals with detachment of the retina in the eye operated on, and not in the other. In one of these the interval was only three months, but in the others it seemed too long to establish any connection between the operation and the detachment.

Cases which have been operated on for lamellar cataract do not seem to be especially liable to detachment, and the liability of high myopia to detachment is sufficient to explain the occurrence; it seems a reasonable inference that the myopia, and not the operation, was the cause of the detachment.

The following are the cases in which detachment occurred:—

(26) Walter F., age at date of operation 17. His mother was myopic 16 D. He was first seen at the age of 7, when his myopia was 15 D., and his corrected vision $\frac{6}{24}$ in the R.E. and $\frac{6}{18}$ in L.E. At the age of 15 the conditions were unchanged, but at the age of 17 the myopia was R.E. 23 D., L.E. 20 D., corrected vision $\frac{6}{18}$ in each. The R.E. was operated on—three needlings. Three months later vision without a glass was $\frac{6}{36}$. Eight months after the operation vision failed suddenly, and when seen three months later a large detachment was diagnosed. He was admitted and given injections of pilocarpine, without improvement. A year later no detachment could be seen, but there was choroiditis at the macula, and concentric contraction of the visual field; V. $\frac{6}{80}$.

(6) Ernest F., 26, M. 18 D., corrected V. $\frac{6}{24}$, needlings 2, paracentesis. After the second needling there was increased T., and an iridectomy was performed. He got V. $\frac{6}{12}$ without glasses. Two months later he received a severe blow on the eye and returned with detachment.

(11) Ernest H., 15, myopia 16 D., corrected V. $\frac{6}{18}$, 2 needlings and 2 paracenteses, V. $\frac{6}{60} + 3$ D.: $\frac{6}{18}$ V. failed gradually three years later, and a large transparent detachment was discovered below.

(15) Mary M., age at date of operation, 25. At age of 12 myopia, 16 D. Corrected vision $\frac{6}{18}$ —one letter. At time of operation M. estimated at 18 D. Result, $\frac{6}{8}$ without glasses, two months after first operation; but vision failed soon afterwards, and a large detachment was found below.

(4) John W., 24, M., 12 D.; corrected vision $\frac{6}{18}$, 2 needlings, 1 paracentesis, 1 suction, V. $+4 = \frac{6}{8}$. Saw well for *three and a-half years*, then sudden failure, large detachment above.

(9) and (10) William W., 27. This case is exceptional in several respects. There was a faint lamellar cataract in both eyes when he was first seen, and this subsequently became denser. There were considerable choroidal changes.

When first seen, at the age of 23, the myopia was 16 D. in each eye with corrected vision $\frac{6}{18}$, but before operation the myopia was R.E. 20 D., with corrected vision $\frac{6}{36}$; L.E. myopia 18 D.; corrected vision $\frac{6}{60}$.

L.E. operated on first, 2 needlings, paracentesis and needling; a year later vision without glasses $\frac{6}{6}$.

Meanwhile, the operation having been so successful in the L.E., the R.E. was operated on at the patient's request. It was needled several times, and did very badly, the media becoming turbid and the iris retracted; finally detachment of the retina was discovered.

A year later a detachment occurred in the L.E., which, up to this time, two years after the operation, had had good vision.

With regard to the probability of the result in the other successful cases being permanent, the late occurrence of the detachment in some of the above cases makes it difficult to speak with certainty, but in many of them the length of time that has elapsed since the operation affords good ground for hoping that the result will be maintained.

(1.) Operation in 1896. Corrected vision before operation $\frac{6}{18}$. After, $\frac{6}{6}$ letters. Seen five years after operation. Seven years have elapsed, and the patient certainly would have returned had the sight failed.

(5.) The operation was successful, but useless, as the patient continued to use the other eye, which had the better vision. Seen one year and a-half after operation.

(7.) Operation in 1897. Corrected vision before, $\frac{6}{36}$; after, $\frac{6}{9}$ without glasses. Seen four years later. But six years have elapsed, and patient would certainly have returned had the eye failed.

(8.) Operation in 1897. Corrected vision before, $\frac{6}{18}$; two letters; after, $\frac{6}{18}$. Seen three years later. Does not usually wear glasses; without them, vision is $\frac{6}{36}$. Patient is pleased with result, and wishes other eye done. Would have returned had eye failed.

(12.) Result only $\frac{6}{24}$. Seen two years later, no change.

(13.) Operation in 1897. Corrected vision before, $\frac{6}{18}$; after, $\frac{6}{12}$. Without glasses, $\frac{6}{18}$. Seen two years later; wishes other eye to be done.

(14.) Age 40. Operation in 1897. Seen four years later.

Vision with glasses, $\frac{6}{18}$. This was the same as before operation, but the patient was pleased with the result.

(15.) Operated on, 1897. Corrected vision before operation, $\frac{6}{24}$; after $\frac{6}{18}$ without glasses. Seen four years later. Some capsule remained.

(16.) Operation in 1897. Corrected vision before, $\frac{6}{24}$; after, $\frac{6}{9}$ without glasses. Seen three years later. Would certainly have returned had eye failed.

(17.) Operation 1898. Corrected vision before, $\frac{6}{18}$; after, $\frac{6}{9}$ with 5 D. Seen three years later. The myopia was estimated as 13 D., but was probably less.

(18) and (19.) Both eyes were operated on in 1897 and 1898. The myopia was low, there was astigmatism, and glasses were required. Seen a year later. Result maintained.

(21.) Aged 48. Operation in 1897. Preliminary iridectomy. Corrected vision before was $\frac{6}{9}$, but he could not wear full correction, and was anxious to be independent of glasses. Result was only $\frac{6}{36}$, but the patient was satisfied, because he could walk about without glasses.

(23.) Corrected vision, $\frac{6}{36}$. A year after operation, $\frac{6}{18}$. Two years after operation it was $\frac{6}{36}$ without cause ascertained for failure, but there was no detachment.

(24.) Aged 35. Corrected vision before operation, $\frac{6}{36}$; after, $\frac{6}{18}$. Seen a year and a-half later. Does not wear glasses.

(25.) Corrected vision before operation, $\frac{6}{36}$; after, $\frac{6}{18}$. Wrote two years after operation that eye was still good.

(27.) Corrected vision before operation, $\frac{6}{36}$; after, $\frac{6}{12}$. Seen three years later.

(28.) Corrected vision before operation, $\frac{6}{36}$; after, $\frac{6}{9}$ and $\frac{6}{18}$ without glasses. Seen a year after operation. Wishes to have other eye done.

(32.) Corrected vision before operation $\frac{6}{24}$; after $\frac{6}{18}$ and $\frac{6}{36}$ without glasses. Seen a year later.

(33.) Corrected vision before operation $\frac{6}{36}$; after $\frac{6}{18}$ without glasses. Seen a year later.

Of the remaining cases, seven (in six patients) had detachment, and have already been referred to. Two suppurated, both children. One developed glaucoma; in one the choroiditis at the macula prevented a good result. In one a chronic serous cyclitis with punctate opacities on the cornea developed, and the result so far is not good.

It is a curious fact that in many of the cases in which the result, as measured by the test-types, was not good, the patients were satisfied. They seemed to appreciate the freedom from glasses more than the improvement in the vision.

Some of the cases referred to can hardly be considered as successful, but they are given as illustrating the permanent character of the results.

The question remains whether, when the operation has been successful in one eye, the other should be operated on. My view at present is that unless there are some exceptional circumstances it is better left alone. The main object of the operation is to render the patient independent of glasses. The eye that remains myopic can see near objects unaided, while the other serves for distant vision. The possibility of obtaining binocular vision is, of course, too remote to be worth considering.

Although well satisfied with the improvement produced in distant vision by the operation in suitable cases, I have several times been disappointed in the power of near vision, some of the patients having been unable, with any correction, to read small print. Possibly this is due to their having acquired a habit of reading with the other eye.

I have only operated on both eyes in two cases, and in one the presence of lamellar cataract was the reason. In the other, the second operation was undertaken at the patient's request, and glasses would have been required in any case to correct the astigmatism.

CONCLUSIONS.—(1.) The operation should be restricted to patients whose actual myopia is not less than 12 D. (that is, who require a correcting lens of not less than 13.5 D). (2.) The patient should be able to read 1 J without glasses with each eye. (3.) After the entire removal of the lens, the distant vision *without glasses* is usually at least as good as it was before *with glasses*, and with correction it is usually much better. (4.) The operation should be limited to the more myopic eye, except under special circumstances.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

A USEFUL APPLICATION OF VON GRAEFE'S TEST FOR INSUFFICIENCY OF THE INTERNAL RECTI MUSCLES.

BY W. A. BRAILEY.

OPHTHALMIC SURGEON TO GUY'S HOSPITAL

CASES often present themselves in which some difficulty of sight is felt without any visual, refractive, or obvious muscular defect.

A slight muscular weakness would suggest itself as the most likely cause, and, where the trouble is most complained of in near use of the eyes or in walking, one would guess the fault to be in some want of balance of the muscles moving the eyes vertically.

But slight vertical divergencies beyond the reading distance, as revealed by the Maddox rod test, are extremely frequent and rarely imply any practical inconvenience.

Von Graefe's test deals roughly with the muscles moving the eyes in a horizontal plane in near work.

But if, in the usual method of its use, say with the prism base up before the right eye at a certain definite reading point, the vertical distance between the two dots be roughly measured, and then a fresh estimation made with the prism reversed, a considerable difference, even as much as 2 to 1, will occasionally appear between the two measurements.

So far as I can judge, vertical differences detected in this way are always a cause of disturbance.

The muscle mainly concerned is the superior oblique, as would be expected from its action and the anatomy of the nerve supplying it.

The slight obliquity of the vertical meridian does not prevent the patient from getting distinct relief by a vertically placed prism.

I have found this simple method of use in explaining and in treating many obscure cases in old persons where the nervous system has suffered from an eye defect.

AN OPERATION FOR THE RELIEF OF CONGENITAL PTOSIS.

By CLAUD WORTH, F.R.C.S.

MANY operations have been devised for the relief of ptosis. The object of all is to make the frontalis muscle do the work of the atrophied or absent levator palpebræ superioris. The most successful seems to be the operation of Panas, which I have seen performed by the master himself. It is an extensive operation and leaves an ugly scar. It occurs to one, moreover, that, if the wound should become septic and the bridge of skin slough, the subsequent contraction might leave the cornea permanently exposed.

In one case I obtained a fairly good temporary result by means of the operation described by Mules. But fourteen weeks later the twisted upper end of the wire worked its way

to the surface and the wire had to be removed. A metallic foreign body so near the surface, however flexible it may be, is not likely to remain permanently in place, especially in a part which is constantly in motion.

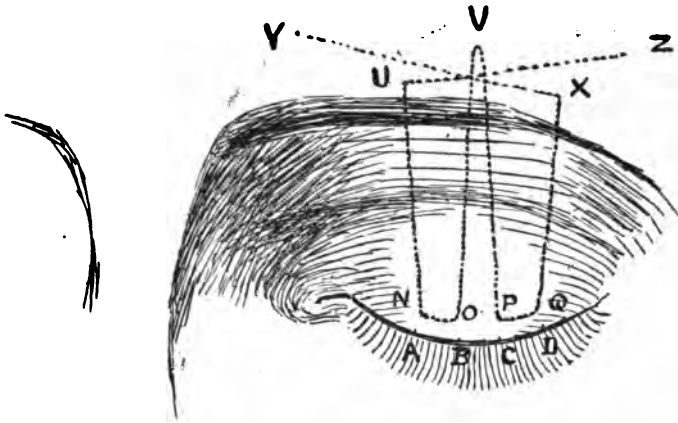
In March, 1898, I was consulted about a boy, aged 9½ years, who suffered from bilateral congenital ptosis. By throwing the head far back and strongly contracting the frontalis muscle he could see through a narrow chink between the eyelids. I operated upon both sides by means of thick buried sutures of kangaroo tendon. After the operation, he could lift his eyelids fairly well with his frontalis muscles. I saw him last in August, 1902, *i.e.*, four years and five months after the operation. The case had not relapsed. He had quite given up his old habit of throwing the head back, since there was no longer any necessity for it. Whether any of the kangaroo tendon still remains, or whether it has been replaced by living fibrous tissues, it is impossible to say. I have since operated on other cases in a similar manner, but these are too recent to show whether the results are likely to be permanent.

A description of the operation may be of interest. The suture was prepared as follows.—A piece of kangaroo tendon, about eight inches long, was split to make it thinner, and was then scraped with a knife. Any grease which might be present was removed by ether. After soaking in biniodide of mercury lotion, it was greased with vaseline, which had previously been sterilised by heat. Each end of the suture was then armed with a Hagedorn needle about two inches long. The patient's eyebrows were shaved and the field of operation thoroughly cleansed with soap and water. The conjunctival sacs, after irrigation, were filled with vaseline to prevent desiccation of the cornea during the operation. The patient was anæsthetised with chloroform.*

The operation.—A horn spatula having been placed under the upper lid, the tarsal border was slightly everted. With a Graefe knife, two slits, AB and CD, were made in the tarsal border. The slits were about $\frac{1}{8}$ inch apart, and each about $\frac{1}{8}$ inch wide. The knife was passed upwards, parallel to the skin surface, to a depth of about $\frac{1}{8}$ inch in each slit. One needle was entered at B at the end of one of the slits, passed upwards, and brought out at V, about half-an-inch above the eyebrow. It was then entered again at V, and brought out at C, at the end of the other slit. In order to get the angle of the suture at V buried, a puncture was made in the skin at this point with the Graefe knife before re-entering the needle.

*I have since operated under subcutaneous injections of cocaine, one grain of cocaine to one ounce of normal saline solution.

The needle was then entered at D, at the other end of the slit, and brought out at X, a loose loop being left between C and D. The needle at the other end of the suture was then entered at A and brought out at U, a loose loop being left between A and B. These two loose loops were then taken between the finger and thumb, and the bight BVC of the suture drawn upon, while the tissues were puckered on this suture to the required



extent with the fingers of the other hand. The two ends at X and U were then drawn upon until the loose loops at CD and AB sank into the two slits to the positions PQ and NO, and the desired degree of tension was produced. The needle which was brought out at X was re-entered at the same point, and carried across the brow to Y. The suture was then drawn upon sufficiently to wrinkle the skin of the brow. It was next cut off close to the skin, and the skin was straightened out so as to cause the end of the suture to disappear. I operated upon both this boy's lids at the same time. This form of suture evenly distributes the strain, and admits of easy adjustment. The vaseline makes the suture pass fairly easily during the operation. The kangaroo tendon is tedious to prepare, as several pieces are generally spoiled before making one of moderate and uniform thickness. The tendon causes no irritation. There is no open wound, so that no scar is left. One cannot tell yet whether the result is permanent. But should the case relapse, the patient will be in no worse position than he was in before, and the little operation may be repeated.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

Ramsay, A. Maitland.—The cosmetic value of paraffin injections after enucleation of the Eyeball. *Lancet*, January 31, 1903.

In order to form a better stump for an artificial eye, Ramsay has injected sterilised paraffin melting at 40°C. into the capsule of Tenon after the eyeball has been removed. He has operated upon 22 cases, of which all have been a success except four. He describes the method as follows:—under chloroform the eyelids are kept apart by a spring speculum. The conjunctiva is divided close to the margin of the cornea, and each rectus muscle is caught upon a strabismus hook and sutured to the overlying conjunctiva with a strand of catgut. The tendons of the recti muscles are then cut at their insertion into the sclera, and the enucleation completed in the usual way. The capsule of Tenon is packed with gauze until such time as a strong silk purse suture has been passed round the conjunctival margin. The gauze is then removed, and the cavity (enlarged by holding the recti muscles on the stretch by the catgut threads) is filled to overflowing with melted paraffin injected by means of a sterilised glass syringe. The purse suture is tied, and the catgut sutures are fastened one to another in such a way that the superior rectus is approximated to the inferior, and the internal rectus to the external. The operation is stated to cause, as a rule, no more discomfort than a simple enucleation. The purse suture is taken away at the end of a fortnight, and a week later an artificial eye (Snellen's or otherwise) is fitted. To ensure success, Ramsay insists upon two points: first, the operation must be done with careful aseptic precautions, and, secondly, the sutures must hold the conjunctiva in accurate position over the paraffin. Finally, it may be stated that the paraffin is prepared by Frank Rogers, Oxford Street, London, W.

Campbell, E. Kenneth.—The Theory of Retinoscopy. *Lancet*, February 28, 1903.

Firth, A. H.—A case of Ophthalmoplegia. EDINBURGH ROYAL MEDICAL SOCIETY, February 27, 1903.

Firth's patient was a woman, 34 years of age, in whom ophthalmoplegia was brought on by a severe chill. On the

right side there was ptosis, complete immobility of the eyeball, and loss of the reaction of the pupil to light and to accommodation. The symptoms improved under potassium iodide and counter-irritation.

Lancet, March 7, 1903.

Harman, N. Bishop.—**A Portable Refractometer.** *Lancet*, March 7, 1903, *British Medical Journal*, February 28, 1903, and *Middlesex Hospital Journal*, June, 1903.

Harman describes the refractometer which he exhibited at the Ophthalmological Society on December 12, 1901 (see *Trans. Ophthalmological Society*, Vol. XXII., page 272).

Parsons, J. Herbert.—**The Healing of Wounds of the Retina, Choroid, and Sclera.** *Royal London Ophthalmic Hospital Reports*, vol. 15, Part 3. January, 1903.

In an exhaustive paper on this subject Parsons first enters carefully and minutely into previous work, and gives the results that others have arrived at. He then describes his method of experimenting on monkeys, which was as follows.—The animals were anæsthetised and their pupils dilated with atropine, and the lesions were made with a Graefe's knife, which was introduced into the eye 3 or 4 mm. behind the cornea. The instrument was passed across the vitreous, and the retina wounded to the required extent. After two or three weeks the animals were killed, and their eyes examined.

Excellent photomicrographs of the sections are reproduced from the eyes of six monkeys that were experimented upon. The pathological anatomy of three eyes that were removed in the hospital for injuries is also given. Parsons comes to the conclusion that (1) in any wound hæmorrhage greatly increases its severity; (2) the leucocytes are derived from the vascular channels, the vitreous playing only a passive part in any pathological condition; (3) the leucocytes soften and degenerate the necrosed tissue and help to fill up the broken and contused vessels, &c. They are very active as phagocytes, and they finally themselves become broken up and disappear. The process of cicatrisation is fully entered into, and the part played by both the leucocytes and the endothelial cells is discussed. Some final remarks are made on the subject of Retinitis Proliferans.

Parsons, J. Herbert.—**Metastatic Carcinoma of the Choroid.** *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3. January, 1903.

This is a detailed description of a case of metastatic carcinoma of the choroid in a lady, aged 37 years, who

had suffered from scirrhus of the breast, which, with the axillary glands, had been removed in 1899. The eye was excised 4 years later and was found to contain glandular carcinoma, having the usual flat shape of such growths. The causes which led to this metastasis are somewhat fully discussed. The paper forms a sequel to one published in Vol. 14, Part 3, of the *Reports* by Devereux Marshall, who found records of 24 cases. Since then others have been published and, including the present case, 33 have been examined.

Lang, William.—Note on the use of Haab's Magnet. *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3. January, 1903.

Lang has found difficulty in extracting foreign bodies which have become lodged in the posterior chamber, and in order to overcome this he uses a steel spatula, which he introduces through a valvular opening in the cornea and passes between the iris and the lens. This is now connected to Haab's Magnet by means of a few strands of soft iron wire, twisted to form a rope. On withdrawing the spatula the piece of metal will be found adhering to it. The iris is not bruised or torn by this means.

Hawthorne, C. O.—Nystagmus in Three Generations. *British Medical Journal*, February 21, 1903.

In connection with a case of nystagmus published by Theodore Fisher in the *British Medical Journal* of September 6, 1902, Hawthorne mentions another instance of nystagmus affecting three generations.

Vian.—On the treatment of purulent ophthalmia by concentrated solutions of permanganate of potassium (Du traitement de l'ophtalmie purulente par les solutions concentrées de permanganate de potasse). *Société Française d'Ophthalmologie*, Mai, 1903.

The reasons given by Vian for using concentrated solutions of potassium permanganate in the purulent ophthalmia of babies and adults are the following: (1) the rapidity of the cure; (2) the harmlessness of the solution as regards the cornea; (3) the relative painlessness of the medicament; and (4) the fact that permanganate does not aggravate the condition in cases of diphtheritic conjunctivitis, a disease of which the diagnosis may at first be doubtful, while silver nitrate, in such cases, sets up a marked exacerbation.

In cases of severe purulent ophthalmia, Vian proceeds as

follows:—The palpebral conjunctiva is cauterised, night and morning, with a 10 per cent. solution of the permanganate. The application must never be made with a brush, but with absorbent wool rolled round a wooden or metal stem, and destroyed at once after use. Medicated wool should not be employed for the purpose. When swelling prevents eversion of the eyelids, the stem, armed with wool moistened with the solution, is pushed between the lid and the eye, and the two cul-de-sac are cleansed in turn. This proceeding is free from danger, as regards either traumatism or direct action of the solution upon the cornea. In fact, the permanganate, although an extremely strong astringent, is not in the least caustic. It exerts even a tonic action upon the cornea. When suppuration is profuse, Vian repeatedly cleanses the eye with warm boric lotion, and prescribes poultices of borated rice, renewed every two hours. As suppuration diminishes, the permanganate is applied once a day, later every two days, and so on. The suppuration being at an end, a yellowish infiltration of the cornea is seen. Vian then uses yellow ointment twice a day, and this leads to a clearing of the cornea within a few days or weeks. Under the foregoing treatment one never sees indelible leucomata due to the penetration of silver chloride into the corneal lesions, such as are often met with in the treatment of ophthalmia by silver nitrate. Vian had 53 successes amongst 53 cases of purulent ophthalmia (7 in adults) treated by the above means.

A. DARIER.

Rogman.—The Danger of Enucleation in Tuberculosis of the Eye. (*Tuberculose de l'Œil, dangers de l'Enucléation.*)
Société belge d'Ophthalmologie, 28 Avril, 1903.

Rogman, contrary to the opinion of most authors, believes that there are contra-indications to the removal of a tuberculous eyeball. Without insisting upon the extension of tuberculosis along the optic nerve, he draws attention to such alterations in the sclera as rupture or distension. In removing a staphylomatous tuberculous eye, one risks the opening of a tuberculous focus and the consequent dissemination of bacilli throughout the operative field. Enucleation, therefore, should be carried out before complete disintegration of the eyeball has taken place. On the other hand, if one is called too late for that, then the conjunctiva should be left adherent to the surroundings of the staphyloma, or one should even proceed to exenteration of the orbit with detachment of the periosteum.

HENRI COPPEZ.

Ramsay, A. Maitland.—Case of a man blind from congenital cataract who acquired sight after an operation when he was thirty years of age. *Lancet*, May 16, 1903.

Ramsay gives a graphically written account of an intelligent man, now thirty years of age, who was born blind. Notwithstanding this disability, the man managed to perform almost skilled labour, and to get about his native village in an extraordinary way. The eyes were small, moved aimlessly in the orbits, and showed an alternating convergent squint; the crystalline lenses were completely cataractous; perception and projection of light were perfect. At an interval of a week between the two operations, Ramsay removed the cataracts from both eyes. For about ten days after the operation on the left eye the patient appeared to be dazed and unable to realise that he was seeing. The first thing that he recognised was the face of the house-surgeon, and red was the first colour. The most difficult colour he found to be green, but he is now able to name all the ordinary tints correctly. On the first occasion he saw yellow he became so sick that he thought he would vomit. The patient quickly learned his letters, and he will soon be able to read. From the first he saw everything in its actual position, thus showing that the retinal inversion of an image is interpreted psychically without any education. Size and distance were estimated better than might be anticipated. The patient has still very little control over the movements of his eyes. The *fundi oculorum*, however, appear to be normal.

Elliot, R. H.—McKeown's Method of Irrigation in Cataract Extraction. *Indian Medical Gazette*, April, 1903.

Captain Elliot relates his experience of irrigation of the anterior chamber and lens-sac in 800 cataract extractions. Sketches are given of the flask, tubing, and nozzles. The washing away of the different consistencies of cortex, and the preliminary intra-capsular irrigation of unripe cataract, are minutely described. Captain Elliot has everything to say in favour, and nothing to the disadvantage, of these most useful but hitherto somewhat neglected procedures. The ready removal of blood from the anterior chamber enables one to use a conjunctival flap with comfort. Irrigation also supplies the most satisfactory means of replacing the iris and torn capsule at the close of the operation, while the complete removal of cortex diminishes the frequency, not only of after-cataract, but also of iris-prolapse. In his last 250 operations with irrigation, incarceration of iris occurred only six times. Secondary glaucoma was seen only once doubtfully in 800 extractions,

whereas formerly, without irrigation, there were three cases among 1,200 operations.

It may be mentioned that irrigation, by means of an ordinary laboratory wash-bottle and a locally-made nozzle, has been in routine use in Bombay for a number of years. Ernest F. Neve (Cashmir) and Lieut.-Colonel Giles, I.M.S., described its use in the *Indian Medical Gazette* for June and July, 1902.

H. HERBERT.

Shaw, Cecil E.—Notes on some Recent Advances in Ocular Therapeutics.—*Medical Press and Circular*, March 25, 1903.

Shaw relates his experiences with some of the newer eye remedies, such as adrenalin, acoin, protargol, cuprol, euphthalmine, mydriatine, aspirin, and jequiritol.

Van der Hoere.—Venæ vorticosæ chorio-vaginales in Myopia. (*Venæ vorticosæ chorio-vaginales bij Myopie.*) *Nederlandsch Tijdschrift voor Geneeskunde*, 1903, No. 1, page 25.

Van der Hoere relates two cases of large vessels entering the crescent in myopic eyes. In both cases they were deep-lying, and were proved to be veins by the methods indicated by Leber. Thus, on compression of the bulb, the vessel itself became paler, while the branches grew darker; on compression of the carotids and the jugular vein, all the branches grew darker; during a deep inspiration they faded. The author calls the attention to the fact, that in all cases reported these abnormal vortex veins have occurred in myopic eyes. The entrance of a vortex vein is known to be at a place of minor resistance. The myopia in these cases may hence be due to an ectasia of the posterior part of the bulb caused by the presence of the veins.

G. F. ROCHAT.

Van Geuns.—A Case of Optico-Ciliary Veins (*Een geval van vena Optico-Ciliaris*). *Ned. Tijdschrift v. G.*, 1903, No. 7, page 375.

A large vein, springing from the vena centralia retinae and disappearing in the choroid at the border of the disc, was visible in a case in which the papilla was slightly atrophic, after a papillitis. On a previous examination three months before, the vein was not present. This case confirms the theory of Vossius and Elschnig that after an obstruction in the central vessel, the retina may discharge its blood into

the choroid through a pre-existent small anastomosis between central vein and the vessels of the latter membrane, in which case the anastomosing vessels increase in size.

G. F. ROCHAT.

Van Geuns.—Demonstration of a Case of Congenital, Bilateral Aniridia (Demonstratie van een geval van Aniridia Congenita Bilateralis). *Ned. Tijdschrift v. G.* 1903, No. 7, page 380.

Nicolai.—The Muscle of the Optic Nerve. (Musculus papillæ optici.) *Ned. Tijdschrift v. G.* 1903, No. 7, page 380.

In sections through the optic nerve a great many nuclei can be observed, closely resembling the nuclei of smooth muscle fibres. That they have no relation to fibrous tissue or to neuroglia is shown by Van Gieson's and by Weigert's methods. Palladium chloride stains the surrounding tissue yellow, which speaks in favour of smooth muscle cells. The author succeeded in isolating a few entire cells after maceration of a small piece of optic nerve in a 35 per cent. solution of caustic potash. They had the same form as muscle-cells isolated from the ciliary muscle. The supposed muscle shows three distinct parts—1st, a longitudinal portion, surrounding the optic nerve with fibres running parallel to its axis; 2nd, a circular portion, encircling the disc; 3rd, a portio radialis, the fibres of which run through the optic nerve, extending from the central vessels to the periphery of the nerve.

Further proofs are wanted before the existence of this new muscle will be generally acknowledged.

G. F. ROCHAT.

Stargardt, K.—Upon pseudo-tuberculosis and benign tuberculosis of the eye, with special reference to the binocular microscope. (Ueber Pseudo-tuberkulose und gutartige Tuberkulose des Auges mit besonderer Berücksichtigung der binocular mikroskopischer Untersuchung). *Arch. f. Ophth.*, lv. 3, s. 469, 24 März, 1903.

Stargardt prefaces his paper by some interesting remarks upon the use of the Zeiss binocular *loup* (corneal microscope). With this instrument he could observe not only the current of the blood in the vessels of the conjunctiva, but also the nerves of the cornea, the latter as bright stripes. He could measure objects of 0.01 mm.

First case: A man, 24 years old, was injured in the left eye by a caterpillar. After six weeks a macula was found near the nasal limbus with a brown line in the centre

(hair of the caterpillar). The iris was normal. The corneal wound was excochleated and soon healed. After about three years the eye again became inflamed. Several little nodules in the lower nasal quadrant of the sclerotic near the limbus were visible, with pericorneal injection; the iris was inflamed, and the pupil dilated irregularly to atropine (posterior synechiæ). Mercurial ointment was used without effect. Two nodules were extirpated—the one was microscopically examined, and the other was inoculated into the anterior chamber of a rabbit's eye. The latter shrank, and disclosed a hair in its centre. The former was composed of round-cells (mononuclear, polynuclear), epithelioid-cells, and giant-cells, and was encapsulated by connective tissue. There were scarcely any elastic fibres—no vessels. In the interior of the nodules were fragments of hairs, which were partly broken and which stained deep-violet with methylene blue. The case improved but with several relapses. *Second case:* A man, 29 years old, who was unconscious of having received an injury, showed marked ciliary injection and several corneal nebulæ of his right eye. The iris was hyperæmic, and in the small nasal circle was found a greyish-yellow glassy nodule, surrounded by vessels. Synechiæ posterior. Thin exudation on the anterior lens-capsule. Optic papilla hyperæmic. Aspirine, sodium salicylate, and atropine. The nodule of the iris shrank, and the hair of a caterpillar became visible.

The author mentions two other cases of ophthalmia nodosa, a disease of which he distinguishes two stages. The inflammation of the cornea and conjunctiva in the first stage is merely the consequence of mechanical irritation by the hairs, which have entered by penetrating into the tissue. The second stage is characterized by development of nodules in the conjunctiva and iris. They are 1 to 3 mm. in size, and have a grey or yellow-red colour. They are quite similar to tuberculous nodules. In the cornea are round infiltrations, which resemble the keratitis punctata described by Fuchs and Elschnig, but differ from this disorder by the presence of hairs. The nodules are produced by the hairs acting as foreign bodies. They consist of connective tissue, giant-cells, and cicatricial-tissue. The inflammation of the second stage is caused by special chemical action set up during partial absorption of the hairs. The author thinks that chitin, the main component of the hairs, can be changed by the ferments of the tissues into glycoses and aromatic combinations.

Pseudo-tuberculosis of the eye is produced not only by caterpillar hairs, but also by other foreign bodies, which give the same mechanical conditions.

The mode of penetration of the hairs into the iris, and the

question whether the hairs produce a special poison (Stoermann), were investigated by the author experimentally. He found that all German caterpillars which have stinging hairs can produce this disease. The examination of more than forty species of caterpillars distinguished two different sorts of hairs. The less injurious hairs are long and flexible and have a club-shaped swelling with a sharp point; they are covered with small teeth. The other sort of hairs producing ophthalmia nodosa have spines (*lasiocampa pini*) and bristles, 0.2 to 0.7 mm. long, growing on a papilla, 20 to 50 together. The last have small teeth but never barbs. Ophthalmia nodosa is mostly produced by short prickles (2-8 mm. long), with sharp points, little elasticity and great rigidity. The bristles can produce conjunctivitis (Wagenmann) similar to that set up by the dust of hyacinth bulbs (Waller-Zeper). The effect of the bristles is different from the effect of the spines, which are found in the conjunctiva, cornea, and iris.

The author inserted caterpillars' spines (*cinethocampa pityocampa*) into the eyes of rabbits and pigs and then examined the cornea, lens, and iris by means of the binocular corneal microscope. The hairs were found sticking into the corneal tissue either vertically, like spears, or else parallel to the surface of the cornea. Often the point of the spines was broken off. If the author projected the caterpillar against the eye with a catapult, the spines penetrated into the anterior chamber. He thinks, therefore, that the mode of ingress of the spines into the iris is a direct, and not a metastatic, one, as Franke maintains. Stargardt concludes, as a result of his experiments, that a poison produced by the caterpillars (in hair—or spinning-glands) plays no rôle in ophthalmia nodosa beyond such as is connected with mechanical conditions and the reaction of the tissue.

The author further reports ten cases of benign tuberculous affections of the eye. There were found precipitates, papillitis, yellow patches of the choroid, and little deposits on the endothelium of the cornea. The deposits are distributed over the whole posterior face of the cornea. They appear days before the precipitates, or without precipitates. They resemble the endothelial lesions after cataract operations. The microscopical nature of the deposits is at present unknown; the author thinks that they consist of endothelium in a state of fatty degeneration, like the cells described by Leber in cases of iritis serosa. The fluorescëin method of von Hippel was negative in its results.

Examination with the binocular corneal microscope sustains the opinion that tuberculous infection of the cornea can proceed from the anterior chamber.

Of practical interest is the remark that the diagnosis of sympathetic inflammation can be made, before other alterations are visible, by the endothelial lesions, which can be seen with the binocular microscope.

At the end of his communication the author describes the normal terminal vessels of the limbus as finest loops—not free-ending branches as Augstein supposes. Also newly-formed vessels of the cornea are always connected by thin capillaries, which are often not entirely filled with blood. The normal vessels of the iris can be distinguished from newly-formed vessels by the existence of the anterior iris-layer, which can be observed with the binocular microscope.

BIRCH-HIRSCHFELD.

Straub, M—On inflammation of the vitreous (Hyalitis). (*De outsteleing van het glasachtig lichaam (Hyalitis)*. *Ned. Tijdschrift v G.*, 1903, No. 17.

The author studies the alterations which occur after injection into the vitreous of rabbits of *aspergillus*, a fungus chosen because of the slower and less intense inflammation it produces as compared with most bacteria. The first result of the introduction of a culture is an opacity of the vitreous; next an iritis occurs, with hypopyon and occlusion of the pupil. The eye increases in size; tension is high. The cornea is hazy, and seems to be thicker than in a normal eye. After a few days, the symptoms subside; the eye becomes soft again; the hypopyon is absorbed; and in many cases the pupil, when dilated by a few drops of atropine, allows a white exudation to be seen in the vitreous. At this period blood-vessels grow from the periphery to the centre of the cornea, keeping in the superficial layers and stopping at a short distance from the centre. In a few weeks this broad ring of vessels disappears, and the cornea becomes quite transparent. The eye shrinks in its posterior parts, but usually the exudation in the vitreous is not completely absorbed.

The fungi are found in the vitreous and in the exudation behind the iris, but never in the anterior chamber, the pupil, or the cornea. Therefore, the alterations in the latter tissue can only be the result of the chemical and not of the direct action of the fungi. The ciliary body shows an infiltration of its inner layers only. Great masses of leucocytes seem to wander from its vessels, and to collect on both surfaces of the lens, but there is not a real cyclitis. The same can be said of the choroid—its inner layer only is the seat of a considerable infiltration with leucocytes. The outer layers, as far as the pigment goes, are perfectly free. The retina shows marked alterations: infiltration and necrosis

in some spots, and in others detachment by a serous exudation. The vitreous shows a distinct localisation of the leucocytes: 1. In the parts adjoining the retina, in the central canal, and near the optic nerve. 2. In the neighbourhood of the ciliary body. 3. In its lowest part. From the disc downward the vitreous is separated from the retina by serous fluid; the leucocytes contained in the latter have sunk to the lowest part, thus forming a kind of posterior hypopyon.

The author thinks himself justified in calling the process a "hyalitis," because the vitreous is the place where the battle is fought between the fungi and the defenders of the organism. The vitreous having no vessels, these defenders, the leucocytes, must be provided by the adjoining membranes and the ciliary body. So we may name this a "hyalitis" just as accurately as we call a process in the cornea caused by bacteria a "keratitis," although the exudation is produced by the vessels of the limbus.

Hyalitis occurs in man also, although generally such cases are called cyclitis or panophthalmitis. The author gives a description of five human eyes in which the changes were almost identical with the results of the experiments on rabbits, except that the retina is involved in a far less degree. The infiltration of the choroid and the ciliary body is almost totally restricted to the inner layers, exactly as in experimental hyalitis.

The clinical symptoms are for the most part identical in the human and in the experimental forms of hyalitis. They include: haziness of the cornea, synechiæ, hypopyon, exudations in the pupil and in the vitreous, and high tension. In the milder cases the exudation is gradually absorbed after the inflammatory symptoms have disappeared. Yet the complete clearing up of the vitreous will take some weeks. In the more severe cases in which hypopyon is present and tension increased, there is sometimes a protrusion of the eyeball and chemosis. The prognosis in these cases is not very good. Under atropine and rest, the inflammatory symptoms usually subside, but the clearing up of the media will take several months, and such eyes are constantly in danger of detachment of the retina, produced by shrinkage of the exudation. The most serious cases are those that at present are called panophthalmitis. It would be better in future to call them purulent hyalitis; for the principal seat of the infection is the vitreous, and the membranes of the eye take part in the inflammation only so far as they are reached by the products of diffusion of the bacteria, their principal activity being the production of leucocytes for the vitreous.

Hyalitis may be caused by exogenous or endogenous infection.

The first is met with in penetrating wounds, and also in eyes having a staphyloma or a cicatrix, which can be infected by a conjunctivitis or a rhinitis. Endogenous infection has been observed in pyæmia, meningitis, and in septicæmia after abortion.

G. F. ROCHAT.

Collomb, A.—A case of double iritis due to Mumps. (Iritis ourlienne, un cas d'iritis ourlienne double.) *Rev. Méd. de la Suisse romande*, January, 1903, p. 43.

Collomb publishes a case of iritis due to mumps in a young man, aged 29 years. The right eye was attacked in June, 1902, simultaneously with the tumefaction of the parotid glands. There were opacities of the vitreous humour. The iritis was cured but there remained a marked posterior synechia. The retinal veins appeared turgid. A month later the left eye was attacked in its turn, and, in spite of the energetic use of atropine, this eye still has several synechiæ. The course of the affection was that of a sub-acute iritis and the deep layers of the iris appeared to be more seriously affected than the superficial.

Rev. Générale d'Ophthalmologie, Vol. XXII., No. 2, p. 75.

Thompson, W. Atkin.—Eye Speculum. *British Medical Journal*, May 23, 1903.

Browne, Edgar A.—The Treatment of Strabismus. *Medical Press and Circular*, January 7, 1903.

Taylor, C. Bell.—On the art of extracting for Cataract. *Medical Press and Circular*, January 21, 1903.

In this communication, read before the Nottingham Medico-Chirurgical Society, Taylor describes the method he adopts and the instruments he employs for the extraction of senile cataract.

Stephenson, Sydney.—Ocular Headaches. *Medical Press and Circular*, February 4 and 11, 1903.

Dodd, H. Work.—Operation for conical cornea with the galvano-cautery. *Medical Press and Circular*, February 18, 1903.

Dodd operates upon conical cornea with the galvano-cautery in the following way: he makes a series of deep, punctate

dots with the instrument around the cone, but leaves the centre of the latter intact, and, of course, does not perforate the cornea.

Lang, William.—A bottle for Eye Drops, etc. *British Medical Journal*, February 28, 1903.

Forster, Fred. C.—Case of Rheumatic Fever, complicated by Chorea, Iritis, and Endocarditis: Recovery. *British Medical Journal*, March 7, 1903.

Seventeen days after the beginning of an attack of rheumatic fever, Forster's patient, a girl aged 12½ years, developed chorea, an affection that became pronounced during the next four weeks. Whilst the chorea was getting well, the child complained of pain and dimness of her right eye. This proved to be the commencement of an attack of acute iritis, presumably of "rheumatic" origin. Endocarditis supervened shortly after the onset of the iritis.

Yeld, Reginald.—Rheumatic Iritis. *British Medical Journal*, March 14, 1903.

Amongst 159 cases of primary iritis, Yeld could find in no single instance conclusive evidence of true rheumatism. Moreover, he could trace no instance of iritis in 250 cases of rheumatic fever or in 100 cases of chorea.

Pasteur, W.—Cerebro-spinal meningitis and optic neuritis, with complete loss of sight, followed by partial recovery of vision of unusual character. CLINICAL SOCIETY OF LONDON, February 27, 1902.

Pasteur's patient was a female, aged 22 years, in whom the loss of sight was apparently due to pressure on the optic nerves. She could locate the windows of the ward correctly, but the perception was momentary only, and was at once lost unless the position of the object looked at was changed.

British Medical Journal, March 7, 1903.

Stevenson, Edgar.—Congenital Glaucoma. LIVERPOOL MEDICAL INSTITUTION. February 12, 1903.

Mules, P.—Some Toxins in their relation to the Eye and its Appendages. MANCHESTER MEDICAL SOCIETY, February 4, 1903.

Dunn, Percy.—**A Model Eye.** *British Medical Journal*, January 10, 1903.

Dunn has devised an artificial eye, available either for the estimation of ametropia or for the study of certain diseased conditions of the fundus oculi. For the latter purpose, the instrument is provided with seventeen metal discs, each of which represents some normal or morbid condition of the eye. The instrument is made by F. Davidson, 140, Great Portland Street, London, W.

Wingrave, Wyatt.—**Tobacco Deafness.** *Medical Press and Circular*, February 11, 1903.

Of seventeen instances of symmetrical nerve deafness described by Wingrave as due to tobacco, twelve showed marked impairment of colour-sense; of the latter, four had well-marked central scotoma. The deafness, Wingrave believes, is due to the gradual accumulation within the system of certain toxins of tobacco. The author concludes that the abuse of tobacco leads to a selective degeneration in the auditory as well as in the optic nerve.

REVIEWS.

The Method of Cuignet, or Retinoscopy. By EDWIN HARDING LONDON, M.A., M.D. London: BAILLIERE, TINDALL, and COX, 8, Henrietta Street, Covent Garden. 1902. 10s. 6d. net.

Dr. Lendon's work (presented as a thesis for the degree of M.D.Oxford) consists of two volumes, of which the first describes retinoscopy, while the second contains thirteen explanatory diagrams. It represents, as the author naively informs us in the preface, his "tiny contribution to ophthalmology," and is perhaps best described as a labour of love. Criticism, under these circumstances, is hardly called for. At the same time, the book contains some curious statements and phrases, which Dr. Lendon will be wise to correct in his next edition. Thus, on page 34 we read that in testing cases of astigmatism "the clock face of Mr. Brudenell Carter" is useful. In speaking of a lamp suitable for retinoscopy (page 31), we are told that "it is not absolutely unknown for the feathers of ladies' hats to be set on fire" by a gas-lamp. On page 53 the author admits that in practising retinoscopy he is "addicted" to the use of the concave mirror.

Dr. Lendon points out, rightly enough, there is sometimes a difference between the refraction of the yellow spot and that of the optic disc. But when he goes on to say that "in some instances there was a difference of 1 D between the two, equal to 1.5 mm. of axile length," we find it a little difficult to follow his meaning. The volumes are beautifully printed and illustrated.

Ophthalmic Nursing. By SYDNEY STEPHENSON, M.B., F.R.C.S.E., Ophthalmic Surgeon Evelina Hospital, North - Eastern Hospital for Children, etc., etc. 2nd Edition, 1902. The Scientific Press, London, W.C. Price 3s. 6d.

The publication of a second edition of this little book is in itself sufficient proof that it finds an ample field of usefulness. A few years only have elapsed since the appearance of the first edition, but during that time many advances have been made in practical eye work, more especially, perhaps, in the direction of new remedies, and of more detailed asepticism. New matter of that kind, so far as it concerns the nurse, has been carefully collected and embodied in the text. The main features of this book are clearness, simplicity, accuracy, and conciseness, whereby the nurse is enabled to gather all the information needed in the special department of ophthalmic nursing with the least possible output of energy. Of one thing the aspiring ophthalmic nurse may be assured, namely, that she will not have to unlearn any information she may cull from Mr. Stephenson's pages. There are a sufficing number of illustrations, and a most useful glossary. The book is well edited and published, and should be read with profit by nurses generally.

The Errors of Accommodation and Refraction of the Eye and their Treatment. A Handbook for Students. By ERNEST CLARKE, M.D., B.S., F.R.C.S., Surgeon to the Central London Ophthalmic Hospital and Ophthalmic Surgeon to the Miller Hospital. 1903. P. 225. London: BAILLIERE, TINDALL, & COX, 8 Henrietta Street, Covent Garden, W.C. Price 5s. net.

Mr. Ernest Clarke's book appears to hit the happy mean in the sense that it is neither so advanced as to require a knowledge of the higher mathematics to understand it, nor so elementary as to be of no practical service to the average ophthalmic surgeon. Before all things it is of a practical nature, and details unnecessary for the student or practitioner have been wisely omitted.

There is not, perhaps, much scope for originality on a work on refraction, and that is probably the reason why the writer follows, to a large extent, the beaten track. The book opens with a short but satisfactory chapter upon "Optics." It may be noted in passing that in discussing the "Optical properties of the normal eye" Mr. Clarke gives it as his opinion that Jaeger's types for near-sight have been superseded by Snellen's. The change would certainly be desirable, but we doubt whether it has yet taken place. A glance at the reports of clinical cases will show that Jaeger's near-types are still extensively used in this country. A short chapter upon "Asthenopia" contains an excellent account of the varieties of eye-strain. With regard to ocular headaches, the author points out that their position and character vary with the individual, although the commonest form is "a dull pain over one or both brows." As to the relationship between neurosis and eye-strain Mr. Clarke says:

"At the present day the universal recognition of asthenopia as the cause of many troubles that formerly were not supposed to be in any way connected with it, has led, as one might expect, to the 'pendulum swinging' too much the other way. We have no proof that such diseases as epilepsy and chorea owe their existence to eye-strain; but eye-strain, like any other peripheral irritation, may start an attack in an epileptic or choreic patient, and if the peripheral irritation, in this case the eye-strain, is removed the attacks may become fewer and less severe or even disappear altogether."

This candid statement, we imagine, will be endorsed by most British ophthalmic surgeons. The author's remarks upon latent deviations of the eye, although brief, are practical and to the point. After remarking that hyperphoria is much commoner in America than in England, Mr. Clarke says that he has often found a small amount of this defect to be present in cases that exhibited no symptoms of asthenopia. The chapters upon "Accommodation," "Convergence," the "Ophthalmoscope," "Strabismus," and the various errors of accommodation and refraction, contain all that a student need know in order to get a good grasp of those subjects. A scheme for note-taking arranged upon the "card system" is given and illustrated by a diagram. This should prove useful to ophthalmic surgeons and others, for, as Mr. Clarke remarks, "the voluminous notes recommended by many authors are quite impracticable for the busy man."

The book is singularly free from clerical blunders, is written in a clear and attractive way, and is illustrated by many diagrams and several plates. We consider that Mr. Clarke has produced a useful and trustworthy book, and one that we can cordially recommend to students and to practitioners alike.

Meyrowitz Bulletin. By E. B. MEYROWITZ, New York. No. 26. May, 1903.

The periodical publication known as the *Meyrowitz Bulletin* includes descriptions and cuts of several instruments and appliances likely to be of service to ophthalmic surgeons. Amongst these may be mentioned Worth's "amblyoscope," Dennett's electric ophthalmoscope, Todd's placer for the glass spheres used in Mules's operation, Landman's spheres of pure silver wire for evisceration, the Reisner lens measure, and Claiborne's set of trachoma instruments. The *Bulletin* can be obtained gratis on application to E. B. Meyrowitz, 104, East 23rd Street, New York.

CORRESPONDENCE.

[While the *Ophthalmoscope* will at all times welcome correspondence from its readers, the Editor does not hold himself responsible for any views expressed in this column.]

MR. G. LINDSAY JOHNSON AND THE SPECTACLE MAKERS' COMPANY.

SIR,—For upwards of four years I have held the post of Examiner to the Worshipful Company of Spectacle Makers in conjunction with Professor Silvanus P. Thompson, F.R.S., the Rev. J. Henry Smith, B.A., late Principal of the College of God's Gift, Dulwich, and Mr. W. H. Thornthwaite. These examinations, each of which usually occupies three days, are held for the purpose of examining opticians in the knowledge necessary for their craft, and embrace an elementary knowledge of theoretical and applied optics, including the laws of refraction, and reflection, the Gauss theory, the causes and means of correction of spherical and chromatic aberration, the course of axial and oblique rays through optical systems, and a thorough practical knowledge of the make and fitting of spectacles, and of the carrying out of oculists' prescriptions. Further, a knowledge of arithmetic, elementary algebra and plane trigonometry, an elementary acquaintance of heat, pressure, and temperature and of instruments employed for their measurement. Also the principles underlying and the use of the camera, the microscope, telescope, and other optical and scientific instruments. Although the examination includes the construction of the eye and its refraction, treated as an optical instrument, and from a purely theoretical point of view, practical sight-testing has always been excluded, as well as, of course, diseases of the eye, or the application of any of the instruments used by ophthalmic surgeons such as the ophthalmoscope and ophthalmometer.

Up to the present time I have, owing to the attitude taken on the subject by the general body of ophthalmic surgeons, opposed the inclusion of sight-testing in the examination, but the desire on the part of the trade that this be done, has gradually become so pronounced that I feel my position has become strained to the point where I am compelled to publicly declare my views on the matter.

My reason for taking a share in the examination has been, from the first, to watch the interests of the medical profession as well as that of the public, confining the syllabus solely to a knowledge of pure optics, such as would necessarily be a part of the trained optician's education. In the performance of this obligation I have devoted an immense amount of time, labour and energy, since I found the generality of dealers in optical goods

deplorably wanting in scientific knowledge, and I felt it a duty which I owed to the public to do all in my power to raise his standing, so that he may not only sell spectacles and optical instruments, but be also able, if not to make, at least to repair and adjust them with intelligence and precision. To some slight extent my hopes have been realised, and had opticians been able rigidly to adhere to this scheme, I doubt if any of my colleagues could have said a word against it. But, Sir, the opticians' trade is not, and indeed cannot be, confined within the present limits of the Spectacle Makers' Examination. From the time of Silvanus Amatus, the inventor of spectacles in the 13th century, until the present day, opticians have not only made spectacles, but have also tested the sight of their customers. They have done this as a body for upwards of five hundred years, and it would be impossible for anyone to stop it, seeing that the ophthalmic surgeons have done so for only some fifty.

The British Isles contain a population of about forty-two millions, of these the great majority require glasses during some period of their lives. Now the average medical man, although skilled in medicine and surgery, has not devoted his attention to the intricacies of sight-testing and optics, and is therefore more likely to err in fitting spectacles than any optician who has passed the S.M.C. examination, seeing that the latter is fortified by his optical training. We have only very few general practitioners and specialists in other branches, who are, in addition to the ophthalmic surgeons, entirely competent to deal with the testing of sight.

Now I hold, Sir, that the four hundred ophthalmic surgeons and the very restricted number of other medical men are absolutely unable, for physical reasons, to deal with the optical requirements of this country. What, then, is to be done? I see no possible solution except to recognise frankly the traditional right of the opticians to practise the art of sight-testing, aiming rather to restrict them to the correction of simple errors of refraction in healthy eyes, and to induce them to be bound over to refer to the ophthalmic surgeon every abnormal case; that is every person in whom vision cannot be corrected up to normal at once, also persons under sixteen, cases of spasm, of high myopia, and abnormal muscular conditions. Were the opticians trained and examined in their work, they would, it is true, dispose of the bulk of the simple cases requiring glasses, but would be able, without attempting to diagnose diseases, at least to know when an eye was normal or healthy—referring all cases not coming under this category to a higher authority. It is not desirable, and should be prohibited by law, for any optician to use any drug for sight-testing, or any medicament or treatment whatsoever, but since as I have said no one dare attempt to stop opticians selling glasses, surely we ophthalmic surgeons should endeavour to raise their standard so that they may aid and not oppose us, and that we may aid and not oppose them in taking care of the eyesight of the Nation.

It may be urged that if the opticians were trained so as to test sight properly, they would be depriving the ophthalmic surgeons of their patients and consequent emoluments, but all experience goes to show that the contrary is the case. A trained optician who knows how to recognise a healthy and normal eye is far more likely to refer all the diseased and "abnormal" ones to a medical man, than one who is not so trained.

There are, moreover, immense areas, all over the Kingdom, where there are no oculists at all, or if there be they are not accessible to the mass of the public. Are we to consider it part of our duty to try to deprive the inhabitants of these parts of such assistance to their sight as it is possible for them to obtain? It is evident that if we wish our countrymen to keep to the front in trades and manufactures, our artisans must be able to see the work on which they may be engaged, which means that they must have their sight efficiently corrected. If our medical men are unable to test more than a small fraction of these people, others must be trained to do the work. If this be done thoroughly and sensibly, I feel convinced that it will greatly benefit the public by calling attention to their optical defects, and the ophthalmic surgeons by the number of cases which such men will know it is their duty to urge to obtain professional advice. The alternative

which we as ophthalmic surgeons would undoubtedly prefer would be the institution in the medical curriculum of a special optical training compulsory on all medical men who undertake sight-testing and eyework.

I am convinced that only ill results would accrue to the public and to the ophthalmic branch of the profession if we succeeded in blocking advancement of the optical trade to a higher status. For my part I am afraid lest the opposition of the profession to the adoption of sight-testing in the examination of the Spectacle Makers' Company may possibly have the effect of causing that Company to defer taking action in this direction. This will lead to the deplorable result of the trade obtaining certification of a questionable kind from less responsible corporations, and without that restraining influence on the scope of the examinations which it is now so easy for the profession to secure, if they take up a judicious and friendly attitude to the scheme under consideration.

Bearing in mind the fact that the optical needs of the public are out of all proportion to the possible attention to be obtained from oculists and other competent medical men, and that therefore persons with defective eyesight are compelled to resort to opticians for assistance, is it not time that the profession should approach this question in the same spirit in which they had been compelled to deal with the position of midwives? It will be remembered that by the Midwives' Act, which came into force in April last, a central board has been established to examine and issue certificates to midwives which qualify them to practise. It seems to me that a similar Act might well obtain to regulate the practice of the optical craft, and the position of the optician would thus be placed upon a proper footing in relation to the public and the profession.

But although I have long been convinced of the trend of affairs in the optical industry, and have recently had my attention drawn to the movement which is now taking place, I feel that the time has come when I must reconsider my position as Examiner, a position which I only consented to hold so long as sight-testing was not a part of the examination. As I now see clearly that this limitation must, in the near future, be removed, I feel it my duty, following on the conclusion of the forthcoming examination, to withdraw, and place my resignation in the hands of the Spectacle Makers' Company. I consider I should keep an open mind upon the subject until the details of the proposed new scheme of examination and certification have been settled in such a way that they do not in any way clash with the real interests of the medical profession.

Although I have been subjected for four years to the continual criticism of my medical colleagues, I have continued my work uninfluenced by it, since I felt I was only doing what I thought to be my duty to my *confrères*, to the Spectacle Makers' Company, to the public, and to my conscience. Whether I have done right in assisting to conduct these examinations, my mind is at rest; whether I have done wisely, time will show.

I am, Sir, Yours faithfully

GEORGE LINDSAY JOHNSON.

London, June 19th, 1903.

NOTES AND ECHOES.

THE public have had an eight days' ophthalmic wonder sprung upon them by the yellow press, to which sensational "copy" is the breath of life. The facts are simple and noticed in another column. A man, thirty years of age, the victim of congenital blindness, came under the notice of an ophthalmic surgeon, who by removing a double cataract happily restored vision to his patient. The situation thus disclosed is dramatic enough to stimulate well-nigh to tetanic pitch the brain of the least imaginative of journalists. The picture of a mature mind rapidly acquiring new views of the outside world could hardly be beaten in limelight value. Then, there is the pathos of the central figure, with the exuberant delight of a child over a new toy. It is hardly surprising to learn that in many of the churches of Scotland this modern version of the blind man restored to sight formed the subject of ministerial comment. It is just the kind of crisp material fitted for pulpit rhetoric.

* * * *

FROM a medical point of view, the matter is, of course, simple enough. The operation performed in this case is wonderful only to the man in the street, although, as a matter of fact, it could be achieved by the veriest tyro in ophthalmic surgery. This is by no means the first case of congenital blindness relieved by operation. Several cases, for instance, have been recorded by early writers. The wonder is how in these days of well-nigh universal operation the patient could have escaped the attentions of the ophthalmic surgeon through thirty long years of his life. The publicity given to this successful operation is certain to bring a good many blind persons to the consulting rooms of the eye specialists. The creation of false hopes in that way is one of the chief evils of the meddling with purely medical matters by lay journalists. Would that blindness—or even a small fraction of its total sum—were capable of relief by simple surgical operation!

* * * *

THE calm assurance of lay writers when dealing with highly specialised medical topics would be highly ludicrous did it not involve issues of so much seriousness to the community. They are not the only medically unqualified persons, however, who seem to think that eye practice is a legitimate field for money-making. The Worshipful Company of Spectacle Makers have for several years been granting a kind of bastard diploma to opticians, certifying that they are qualified to prescribe glasses

in addition to their proper and legitimate sphere of making or selling lenses. Now a rival qualifying body has appeared on the scene. With cynical frankness they kick away the ladder of the mechanic and the tradesman and at a bound attain the pinchbeck grandiose position of the "sight-testing optician." Their distinction is subtle, but it is doubtless good enough for the purposes of a framed and glazed diploma to attract customers. So, too, is the barbarous word "optologist" coined by them to express in concentrated form the special virtues of the sight-testing optician. It has been pointed out that the new noun demands a new verb. Clearly, if an apologist apologises, an optologist—save the mark!—must optologise.

* * * *

WHAT does it all mean? New words added to the language; new quasi-medical diplomas; new and needless splitting up of an honourable craft into various semi-genteel and shoddy professional sub-divisions which are neither fish, flesh, fowl, nor good red herring. An honest lens-maker or spectacle seller we can understand and respect; but what of a man without even mechanical training, who claims to carry out the highly technical estimation of errors of refraction and at the same time to avoid interfering with cases complicated by diseased conditions of which he is, and ever must be, profoundly ignorant?

* * * *

WHO is to blame? First of all, medical practitioners who permit their patients to go to unqualified persons to have their eyes tested, just as they send their patients to instrument makers and electricians to be radiographed, or to undergo special treatment. Secondly, the testing of refraction is within the reach of all general practitioners. Lastly, the General Medical Council, who have neglected their duty in the matter, as they usually do when the interests of the medical profession are concerned. Shall we ever see the day when surgeons will be granting diplomas to instrument makers who make trusses for hernia? Yet the one thing is not a whit more disgraceful and preposterous than the other. "Wanted, a new and stringent Medical Act."

* * * *

As to the Spectacle Makers' examinations, we publish an important communication in another part of the *Ophthalmoscope* from Mr. G. Lindsay Johnson, who has been an examiner since the diplomas were instituted.

* * * *

THE opening of the new Metropolitan Asylums Board School for ophthalmia at Swanley, forms a notable chapter in the chequered career of that historic malady. The White Oak School, as it is called, has been built at a cost of some £117,000. It is a thoroughly up-to-date institution, built on the scattered cottage system upon an ample acreage. Its accommodation has been most carefully and skilfully planned for the isolation, schooling, and medical treatment of children suffering from ophthalmia. All that now remains is to organise the administration into a perfect central machine (both inside and out) for the reception of patients from all parts of the Metropolitan area. The new school was very fitly opened by Mr. Chaplin, to whose action, when President of the Local Government Board in 1897, the establishment of central institutions for defective Poor Law children is in some measure due.

* * * *

By the way, most of the public journals describe the White Oak School as the "pioneer" institution of the kind. That is the case to a limited extent so far as Poor Law centralisation is concerned, but in no other sense. The first isolation school for ophthalmia was created at Bow for the treatment of the Anerley children, in the year 1873. Another school was organised at West Norwood for the Lambeth cases in 1886. A few years later the system was more fully developed at Hanwell, where it was in full swing for fourteen years. Latterly, indeed, the Hanwell Ophthalmic School threw open its surplus accommodation to other Poor Law districts with the happiest results. The Hanwell special school is now replaced by its lineal descendant at Swanley, to which we offer our heartiest congratulations and good wishes for a prosperous future.

* * * *

THE Section of Ophthalmology in the forthcoming meeting of the British Medical Association at Swansea promises to be of much interest. Mr. H. E. Juler is President, with Messrs. Jabez Thomas, of Swansea, T. H. Bickerton, of Liverpool, and Dr. Freeland Fergus, of Glasgow, as vice-presidents. The honorary secretaries (to whom communications should be addressed) are Messrs. H. C. Ensor, 23, Windsor Place, Cardiff, and W. T. Lister, 30, Queen Anne Street, London.

* * * *

THE announcement has been made that a course of lectures on ophthalmology, with clinical instruction, will be shortly given at Oxford University. Rooms in Keble College will be provided

for those who apply. This most interesting course will be open to a limited number of medical men and senior students. The lectures will take place in the second and third weeks of July, at the extremely moderate fee of two guineas. The movement shows that the post-graduate fever has invaded the retreats even of placid Oxford. Full particulars may be obtained from Mr. R. W. Doyne, Reader in Ophthalmology at the University.

* * * *

MR. A. F. MACCALLAN, formerly senior house surgeon to the Moorfields Hospital, has been appointed inspector of travelling ophthalmic dispensaries in Egypt, in connection with Sir E. Cassel's recent munificent gift of a sum of money to the Egyptian Government for the relief of ophthalmia.

ANSWERS TO CORRESPONDENTS.

J.G.—Thanks for good wishes. The *Ophthalmoscope* will appear on the first of every month.

DR. F. W. MOTT.—Your article "On the Eye-Symptoms of Tabes and of Tabo-Paralysis" will appear next month.

DR. G. LINDSAY JOHNSON.—Your letter will be found in the present issue.

MR. E. DONALDSON.—We hope to publish the contribution before long.

ENQUIRER.—The matter is one that we do not care to discuss in our columns.

DR. W. ALDREN TURNER.—Your article is marked for early insertion.

DR. A. DARIER.—The second article you name ("Subconjunctival Injections of Tuberculine") would be acceptable.

DR. C. BELL TAYLOR.—Thanks.

DR. JAMES TAYLOR.—We hope to publish the article in our September issue.

DR. VIDÉKY.—Contributions received.



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THE OPHTHALMOSCOPE

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

VOL. I.—No. 2.]

AUGUST, 1903.

[ONE SHILLING

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ORIGINAL COMMUNICATIONS.

THE EYE SYMPTOMS OF TABES AND OF THE TABETIC FORM OF GENERAL PARALYSIS (TABO-PARALYSIS).

By F. W. MOTT, M.D., F.R.C.P., F.R.S.,

PHYSICIAN TO CHARING CROSS HOSPITAL AND PATHOLOGIST TO THE LONDON
COUNTY ASYLUMS.

It is becoming more widely recognised that, etiologically and pathologically, there is one tabes which may primarily affect the cord, the optic nerves, or the brain, and the term tabo-paralysis is applied to that form of the disease in which the posterior columns of the spinal cord, as well as the brain, are the seat of the progressive degenerative processes. The eye symptoms, especially the Argyll-Robertson pupil, are among the most important diagnostic signs of these parasyphilitic affections—tabes, tabo-paralysis, and general paralysis.

The eye-symptoms of tabes and of tabo-paralysis fall into three groups:

- (1) Pupillary changes:
- (2) Paralysis of the eye muscles:
- (3) Atrophy of the optic nerve.

(1) *Pupillary Changes.*

Pupillary changes, it is well known, are met with in nearly every case of tabes and of tabo-paralysis, and they are also present at some stage in most cases of general paralysis. As regards the relative frequency of these phenomena, my present figures have been drawn from two sources, namely, (a) from 60 cases of tabes in Hospital practice, and (b) from 60 cases of tabes or tabo-paralysis in Asylum work. The two classes are contrasted in the following table:—

	Hospital Cases (60).	Asylum Cases (60).
Bilateral Argyll-Robertson pupils	73.5 per cent.	70.0 per cent.
Unilateral " "	3.0 "	7.0 "
Pupils sluggish to light 	3.7 "	4.0 "
Pupils inactive both to light and to accommodation 	15.0 "	20.0 "

The so-called "paradoxical reaction" is present occasionally in tabes, but more often in tabo-paralysis and in general paralysis. The reaction lies in this—that after removing the hand from the front of the patient's face, there is no response for a second or two, and then the pupil dilates slightly. Into Moebius's ingenious explanation of the paradoxical reaction there is no need to enter in this place.

It should be borne in mind that a sluggish response of the pupil to light is not necessarily pathological. Indeed, unless there is a difference between it and accommodation, it may possess no clinical significance. With absence of light rigidity, there is, as a rule, absence of reflex cutaneous pain, and it is not uncommon to see a patient suffering agonising pain with pin-point pupils.

Inequality or very small size of the pupils afforded a valuable sign of tabes before the discovery of the Argyll-Robertson phenomenon. Even at the present time such an alteration may direct the practitioner's attention to the existence of a serious organic disease. For example, in the case of a man admitted to Charing Cross Hospital on account of supposed acute intestinal obstruction (? volvulus), the surgeon who was summoned to operate, noticed that the very small pupils failed to dilate during the paroxysms of pain, and, upon examination, typical symptoms of locomotor ataxy were found. On this discovery, the case, of course, assumed quite a different aspect.

Inequality of the pupils is more frequent in tabo-paralysis and in general paralysis than in tabes. Thus, that sign was present in 40 per cent. of my hospital cases of tabes, and in 65 per cent. of my asylum cases of tabo-paralysis. The relative frequency of the other alterations in the pupil is shown in the following table, the figures in which should be regarded as approximate, since a number of the tabetic cases were seen once or a few times only :—

PUPILS.			TABES.			TABO-PARALYSIS.		
Irregular	...	...	18·5	o/o	...	...	27·0	o/o
Small	...	...	32·0	o/o	...	...	33·0	o/o
"Pin-point"	...	...	18·0	o/o	...	...	16·0	o/o
Medium	...	...	34·0	o/o	...	...	33·0	o/o
Large on one or both sides	...	...	16·0	o/o	...	...	18·0	o/o

(2) *Paralysis of the Eye Muscles.*

Paralysis of the external ocular muscles may be either transient or permanent. Diplopia is often the initial subjective symptom. In several of my cases it occurred within a few years of the syphilitic infection, but, as a rule, the interval was much longer. Although any muscle may be affected, yet the external rectus is the one most often involved. The diplopia often induced patients to seek relief at an eye hospital long before other symptoms of tabes or tabo-paralysis troubled them. Ocular paralysis was much more frequent in my hospital than in my asylum cases, probably because a considerable number of the former had been referred to a general hospital from the ophthalmic hospitals. The exact figures were as under : among hospital patients, there was in 22 transitory diplopia. This was, in almost all the cases, a very early symptom of disease. There were nine cases of ptosis (associated in four with squint), and four of nystagmus. In 11 cases there was permanent ocular paralysis, four partial of 3rd cranial nerve, one of the 4th, five of the 6th, one ophthalmoplegia interna and externa bilateralis. In eight only (13·3 per cent.) of the asylum cases was diplopia described as an early symptom. In three cases transitory diplopia occurred whilst the patient was in the asylum. Permanent ocular paralysis took place in four cases—that is, two unilateral ptosis, and two unilateral 6th nerve paralysis.

(3) *Atrophy of the Optic Nerve.*

Atrophy of the optic nerve is a very early symptom of tabes, and the defective sight produced by it may be the first cause of the patient seeking advice. It is one of the most serious symptoms that can arise in tabes. Its frequency is difficult to ascertain. Sir William Gowers states that one

out of every ten patients suffer from it ; Leimbach says that it is the first symptom in 1.5 per cent. of the cases. Amongst 65 hospital and infirmary cases, there were 20 with optic atrophy, and of these ten were quite blind. Many of them remained in the pre-ataxic stage for years, but others became general paralytics and died. The large number of the cases was due to the fact that many were referred to me from ophthalmic hospitals. Optic atrophy is extremely common in asylum cases of tabo-paralysis. Of my 60 cases, 35 per cent. were found to have well-marked optic atrophy. As there are inherent difficulties in examining these patients with the ophthalmoscope, a few cases may have been overlooked. I have often found on the post-mortem table optic atrophy that was not noted during life.* It is probable, therefore, that 50 per cent. would be nearer the mark than 35 per cent. My experience leads me to believe that, apart from the blindness, optic atrophy occurring in tabes is a serious indication of the possibility of the degenerative process attacking the brain. In a few instances the mental worry occasioned by the blindness tended to bring this complication about. Among the tabo-paralytic cases were a husband and wife, both of whom suffered with optic atrophy and blindness.

In optic atrophy the failure of sight generally begins with limitation of the peripheral field of vision in one eye, and loss of colour vision. The other eye is then affected. Both eyes, however, may be affected simultaneously. Although the sight may now and then be lost almost suddenly, yet the onset is usually gradual, and the course slowly progressive. In some of these cases there has doubtless been loss of the peripheral field of vision with retention of the central acuity of sight, and it is the comparatively sudden destruction of the remaining fibres to the macula that leads the patient to think he has lost his sight suddenly. However, as Sir William Gowers suggests, it may be due to an interstitial inflammatory process, but ophthalmoscopic examination shows no cause to account for it. Dr. Wigglesworth and Mr. Bickerton were among the first in this country to call attention to optic nerve atrophy preceding the mental symptoms of general paralysis of the insane. Those observers examined the eyes of 66 cases of general paralysis, and showed that in a considerable minority changes in the direction of slight neuritis or atrophy could be found.

*Naked-eye atrophy of the optic nerves was found in only 7 % of 150 consecutive cases of general paralysis examined *post mortem* at the Claybury Asylum. Several of these belonged to the juvenile form of general paralysis, and the remainder to the tabetic form of the disease in adults.

To Benedikt is due the credit of first describing the form of tabes known as "Optic Tabes." He stated in 1881 that the abortive cases of tabes are the ones in which optic atrophy is a prodromal symptom. A few years later (1887) Benedikt enunciated a law from which he knew no exceptions, namely, that the tabetic motor symptoms vanish as soon as optic atrophy appears. I agree with Dejerine in denying the truth of this assertion. I would go farther and say that the development of optic atrophy has no influence upon the ataxy when it arises in a patient already in the second stage of the disease. In this respect it agrees with the fact that cortical degeneration occurring in an advanced stage of tabes with well-marked ataxy, does not cause the disappearance of the ataxy, although the advent of dementia and of other signs of cortical degeneration like optic tabes, certainly arrests the spinal degenerative process and modifies ataxy of the first degree. It will thus be seen that, in my opinion, Benedikt's law is only partially true. Dejerine states that the number of cases of tabes with blindness in which the disease does not progress beyond the pre-ataxic stage is considerable. Dejerine and Martin studied 100 tabetic cases at Bicêtre, and found that of the 18 patients who were completely blind, none presented motor disturbance. According to my own personal experiences, lightning pains usually precede optic atrophy, and when the latter occurs early in the case, the former diminish in intensity, and may disappear completely.

It is important to remember the frequency with which optic atrophy is followed by tabo-paralysis. For example, in quite 50 per cent. of the asylum cases the cerebral symptoms came on after the onset of optic atrophy and blindness. There can be no doubt that, in many cases, the mental worry occasioned by blindness and consequent loss of livelihood acted as the exciting cause of the brain degeneration.

Patients with paralytic dementia, as a rule, do not suffer from visual hallucinations, except in the acute maniacal condition, especially that associated with alcoholism. On the other hand, cases of tabo-paralysis with optic atrophy frequently manifest visual hallucinations. The last-named are usually of human forms or of animals. Thus, patients complain of seeing rats, cats, mice, lions, tigers, and snakes; or of policemen, burglars, dead relatives, or supposed enemies. It is a remarkable fact that blind people should suffer from these hallucinations, but it accords with other facts. Some of my patients, however, were not absolutely blind, and the hallucinations may have been caused by the irritation set

up by the progressive death of the fibres. In certain cases the hallucinations are possibly due to the peripheral irritation induced by disease of the retina or choroid. In the case of a patient admitted with delirium tremens, and placed in a padded room, extraordinary visual hallucinations were complained of. The man said that black devils came and perched on his nose and put stinking things up his nostrils and nasty things in his mouth. As I found that the man had Argyll-Robertson pupils, I expressed the opinion that he suffered from general paralysis as well as from *mania a potu*. The ophthalmoscope showed numerous hæmorrhages around the optic disc and chorio-retinitis. However, these hallucinations are much more likely to occur from a morbid state, which may be either functional or organic, of the higher ideation centres, presumably situated in the angular gyri.

Charcot, according to Sir William Gowers, believed that almost every case of so-called "simple primary optic atrophy" finally developed spinal symptoms. Gowers reports two cases, in one of which the amaurosis lasted twenty years and in the other sixteen years before distinct signs of tabes developed. In this connection it may be well to state that every case of optic tabo-paralysis that I have examined after death, although many of them showed no ataxy during life, yet presented on microscopical examination well-marked degeneration of the posterior columns, due to degeneration of the exogenous system of fibres, and a corresponding atrophy of the posterior roots.

For a full account of these cases the reader is referred to a monograph by the writer on tabes in Hospital and Asylum Practice, Vol. II., *Archives of Neurology* (Macmillan).

TWO CASES OF PERIODIC OCULO-MOTOR PARALYSIS WITH HEADACHE.

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Case I. *Complete third nerve Paralysis with Headache*.—G.B., æt. 18 years, has suffered ever since she can remember from periodic headaches. These occur about every fortnight, the longest free interval having been seven weeks. Some of the attacks are more severe than the others, but they all have the same general character and distribution. When 13 years of age, after a severe attack, the right eye was found to have "turned."

Since then she has had six other attacks of a similar character, but in which drooping of the right upper lid also occurred. At first these attacks were of yearly frequency, but recently she has had them every six months. The last attack was in April, 1903. The ocular palsy usually lasted six weeks; on one occasion it persisted for seven weeks, but in the last attack, which was treated in hospital, it endured for only fourteen days.

The ordinary slighter headaches last from one to two days; the severe attacks, which are followed by ocular paralysis, usually last a week.

The pain begins in and about the right eye, extends round it and sometimes passes down the right nostril, but never extends over the side of the head, nor have there been at any time any of the sensory phenomena characteristic of the migrainous headache. The paralytic eye symptoms begin about the fourth day of the headache, and as they increase, the headache decreases in intensity.

Vomiting frequently occurs during the attacks. The family history shows that one sister has epileptic fits, while another is subject to occasional "sick headaches." The patient's general health is good, and she has never had any serious illness.

She is a bright, nervous girl, who gives a clear account of her malady. There is complete right-sided ptosis, defect of the upward, downward, and inward movements of the right eye; the right pupil is dilated and inactive to light and to convergence. The optic discs are normal. The heart sounds are normal, as also are the knee-jerks.

When seen one month after the last attack, there was no evidence of any impaired action of the right third nerve.

Case 2. Partial Palsy of the Left Third Nerve.—A. C., æt. 27 years, consulted me for drooping of the left upper eyelid. The following history was obtained.—Since childhood he has been subject to attacks of headache, referable mainly to the region of the left eye, sometimes preceded by vomiting, and during the past few years succeeded by drooping of the left upper lid, blurring of vision and occasional "turning outwards of the left eye." During the earlier years the headaches used to occur some three or four times annually, but recently they have been less frequent, although more severe; he has had three attacks in the last two years. The present attack had lasted for fourteen days before he was seen, although most of the previous attacks lasted only about one week. The headache resolved at the onset of the paralytic symptoms. The preliminary headache had lasted four hours, and was followed by

drooping of the left upper lid, and dilatation of the left pupil.

There was no known family history of epilepsy or migraine.

R. V., $\frac{6}{12}$. L. V., $\frac{6}{24}$, refraction myopic. L. P., 4 mms., light reaction, sluggish. R. P., 3 mms., light reaction, brisk. Slight left-sided ptosis, but no defect in the movements of the eyeballs or double vision. Knee-jerks normal. Optic discs normal.

This case is incomplete, both in the history of the disease, as well as in the affection of the third nerve; but I have had no further opportunity of studying it.

Remarks.—Recurring paralysis of an oculo-motor nerve, associated directly with severe paroxysmal headache, although rare, is by no means so infrequent as the recorded cases would imply. The patients are more commonly females than males, and the age at commencement varies, but is usually in early childhood and youth. The nerve most commonly affected is the third cranial, either in whole or in part; but there are cases in which the fourth or the sixth, or the three oculo-motor nerves together have been temporarily paralysed. The paralysis lasts for periods varying from two or three days up to several weeks; during the intervals some minor paralytic defect may persist, while in some of the cases, during the course of years, recovery fails to assume that completeness which was characteristic of the earlier attacks and the palsy persists as a definite and well-marked ophthalmoplegia.

As a rule, the headache is unilateral, and commences definitely in and about the region of one eye, one or more of whose motor nerves subsequently show paralysis. In both my cases the pain was definitely limited to the eye region—in the first, commencing in and around the eye, and if severe spreading down the right nostril; in the second, the pain was more distinctly limited to the back of the eye, and was succeeded by a feeling of “numbness” in it. There was no tendency for the pain to spread over the side of the head or on to the vertex, as is so common in the migrainous headache. The pain in these cases differed also from the pain of migraine in its long duration; in the first case, for a week in the severer attacks; in the second case, for a like period before the paralytic phenomena appeared.

The paroxysmal character of the attacks has given rise to the belief that they are of migrainous nature; but the absence of a definite spread of the pain and of the usual sensory phenomena of this disease, and the prolonged duration of the headache, are features pointing adversely to this view.

The oculo-motor paralysis has a direct relation to the headache. As a rule, it is only in association with the severer

attacks that the local paralysis is observed, and with the onset of the paralysis there is a subsidence and rapid diminution in the intensity of the pain. Vomiting may or may not be a complication of the attack.

The true nature of the disease is still obscure. The patients not infrequently belong to neurotic families, in which one or more members are found to suffer from migraine, epilepsy, neuralgia, or paroxysmal headache. The "functional" character of the attacks finds favour in their periodicity, in their intensity, and in their complete recovery. On the other hand, in the few cases in which a *post mortem* examination has been obtained, an organic lesion has been found involving the trunk of the third nerve at the base of the brain, although not sufficiently severe as to destroy it completely.

It would appear desirable to discard the term "migraine ophtalmique," applied to the malady by Charcot and the French physicians, and to designate it by some such name as "periodic" or "recurring oculo-motor paralysis with headache."*

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

AN APPARENT EXCEPTION TO BENEDIKT'S LAW.

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SOME sixteen years have elapsed since Benedikt brought forward an observation concerning the relationship between tabes dorsalis and optic atrophy, a relationship that has since become known as "Benedikt's Law." His proposition was to the effect that ataxic symptoms disappeared or failed to develop upon the advent of optic atrophy.

The following case (for permission to publish which I am indebted to Mr. R. W. Doyne) leads to the conclusion that Benedikt's law, although perhaps generally true, is by no means absolute.

An intelligent glass-grinder, 56 years of age, attended the Royal Eye Hospital, Southwark, on May 22nd, 1903. He walked into the out-patients' room with considerable difficulty, using a stout stick to support himself, and showing a marked

* For a tabular series of cases, vide *Oph. Soc. Trans.*, vol. xvi., p. 292.

ataxic gait. He complained of his sight, which had been failing for some years. Upon examination, $V. = \frac{6}{60}$. There was simple atrophy of each optic disc, but the retinal vessels were of good size. The pupils were equal, and not unduly small; although sluggish to light, they acted fairly with accommodation. The knee-jerks absent: Romberg's symptom present. No sensation of tingling in the fingers could be produced by compressing the ulnar nerve behind the elbow (Biernatsky's sign). The sexual desire had been lessened for about twelve months; the testicles were far from sensitive to pressure. The patient complained of some pains in his left leg. There had been no trouble with the bladder or bowels. Memory was good, and there was no affection of the functions of hearing, taste, smell, or speech. A gastric crisis (the only one experienced) had occurred eleven days before the patient attended the hospital. It lasted two nights and one day, and was marked by vomiting, diarrhoea, and "terrible pain in the belly."

The history of the case was as follows.—Since an early age the patient's right leg had been weak. As the limb was small, weak, and cold, this had probably resulted from infantile paralysis. For the last two or three years a difficulty had been experienced in reading small print, but after getting worse for some time, this symptom became stationary. In October, 1902—that is, at least two years after sight became involved—he scalded his left leg and thigh, and since that accident has been able to walk only with great difficulty. Lastly, it should be added that the patient, who denied syphilis, has been married for some 32 years, and has four living children. One child died in infancy from a "cold."

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

Brewerton, E. W.—The Bacteriology of Conjunctivitis.
ÆSCULAPIAN SOCIETY, April 3, 1903.

Brewerton concluded from an examination of upwards of 100 cases of conjunctivitis, that the risks of corneal sloughing from the action of various micro-organisms stood in the following order: (1) streptococcus; (2) gonococcus; (3) staphylococcus; (4) diphtheria bacillus; (5) Koch-Weeks'

bacillus. He found that 50% of the cases of ophthalmia neonatorum were gonorrhœal, and that cases thought to be of gonorrhœal origin which got well quickly, were in reality due to the pneumococcus.

Lancet, April 11, 1903.

Collins, Sir W. J.—Three Cases of Ligature of the Common Carotid Artery. *Lancet*, April 18, 1903.

Of three cases in which Sir W. J. Collins tied the common carotid artery, one was for the relief of an intra-cranial aneurism. The patient was a man, aged 54 years, who fell and struck the right brow in December, 1902. Three days after the accident, he began to see double. When examined in January, 1903, there was proptosis of the right eye, and swelling and ecchymosis of the conjunctiva of the corresponding lower lid. The patient complained of some pain and of noises in the head. Pulsation was to be felt around the globe, and a loud systolic bruit was to be heard over the right frontal, temporal, and superciliary regions. The media and fundi were normal. V.6/9 and No. 1 Jaeger with + 3D. lens. On January 19, 1903, the right common carotid was tied immediately above the omo-hyoid muscle. Pulsation of the globe ceased at once, and the bruit was no longer to be heard. On February 6th, proptosis was still present and there was ectropion of the right lower eyelid from solid œdema of the conjunctiva. The patient was kept under close observation during the month of March, but no pulsation or bruit was detected. Some ectropion of the lower eyelid, however, persisted. He was discharged on the 31st March.

Stephenson, Sydney, and Walsh, David.—Short Note on the Cure of Trachoma by X-Ray tube exposure, and by high-frequency brush discharges. *Lancet*, Jan. 24, 1903.

Stephenson and Walsh report their experiences with radio-therapy in trachoma. They believe that a curative agent exists in two forms of electrical discharge—first, that given off by the X-ray focus tube, and, secondly, the brush discharge obtained from a d'Arsonval high-frequency apparatus. They allude to the experiences of Mayou (see *Transactions of the Ophthalmological Society*, Vol. XXII., 1902, page 95) with the former agency, and then report four cases of severe trachoma thus treated by themselves. The disease was bilateral, and in each instance a single eye was alone treated. Two eyes were cured, and two eyes were

greatly benefited. The cures were effected by seventeen exposures in the one case, and by six in the other, with an average exposure of ten minutes, and a distance of about eight inches of the antikathode from the lid. The good effect of the current was found to be equally marked with closed as with everted eyelids. As to the high-frequency current, they report the cure of a case of severe trachoma by its means. The fact that trachoma can be cured both by exposure to an active focus tube and to a high-frequency brush, suggests to the authors that the curative agency may be identical in both instances. The common agency, they think, may be a brush discharge, visible from the high-frequency electrode and invisible from the focus tube.

Stephenson, Sydney, and Walsh, David.—On the curative treatment of Trachoma by X-ray tube exposure and by high-frequency current. *Medical Press and Circular*, February 18, 1903.

This communication gives the results obtained by Stephenson and Walsh in trachoma by the X-rays. The detailed notes of five cases thus treated are appended.

Nettleship, E.—On the distribution of the Choroidal Arteries as a factor in the Localisation of certain forms of Choroiditis and Retinitis. *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3, January, 1903.

Nettleship in this paper (which is founded on a lecture he delivered at the Moorfields Hospital) considers there is some relation between the distribution of the blood vessels of the choroid and the development of various forms of choroiditis and of retinitis pigmentosa.

Nettleship, E.—On the influence of Over-use and Fatigue of the Eyes in causing Organic Disease of the Retina and Choroid. *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3, January, 1903.

After referring at some length to cases of blindness or scotoma after looking at the sun, in eclipse, for instance, and to exposure to other bright light, Nettleship concludes that in elderly myopic persons hæmorrhage into the choroid or vitreous is not uncommon as the result of continued over-use of the eyes. He has also seen organic lesions in otherwise healthy eyes produced by over-use in doing fine work, and he has come to attribute greater influence

to fatigue and overwork, both local and general, than to the more directly mechanical agencies to which hæmorrhages and even detachment of the retina are ascribed. He further thinks that the influence of coughing, vomiting, violent exercise, etc., has been overrated in the past and that too little attention has been bestowed on physiological congestion and over-use.

Collins, E. Treacher.—**On the Children of Parents who have had Interstitial Keratitis.** *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3, January, 1903.

This ingenious research was undertaken to try to find out if there was any proof that syphilis could be transmitted to the third generation. The fact that the mothers of the children had had interstitial keratitis was taken as proof that they had suffered from syphilis. Twelve families were examined, and the conclusion came to was: "That the mortality among the children of parents who have had primary syphilis is somewhat greater than amongst the grandchildren." That the difference between the average infant mortality in London (16 per cent.) and that amongst the grandchildren of those who had primary syphilis (36.6 per cent.) remains very marked. That the smallness of the number of miscarriages in the twelve women, the subjects of inherited syphilis, would seem to show that the dystrophic influence does not make itself felt upon the foetus.

Parsons, J. Herbert.—**Two Cases of Gumma of the Ciliary Body.** *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3, January, 1903.

Parsons has had an opportunity of examining three cases of this disease, one of which was published by him and Morton in Vol. xxii. of the *Transactions of the Ophthalmological Society*.

Of the two cases here reported one was a man, aged 64 years, with a history of a primary sore three months previously; he had well-marked secondary symptoms, and the sclerotic was bulged in two places by growths. The eye, being blind and very painful, was excised. A detailed description of its pathological condition (with photomicrographs) is given. In the ciliary region was found a necrotic granulomatous mass exactly like the one previously reported, and, as in that case, no giant-cells were found. The other case was a female, aged 25 years, whose left eye had been inflamed for six weeks; the vision rapidly failed and a bulging, staphylomatous mass developed. There was no history of syphilis. The eye, being blind and painful, was excised. There was found to be intense iridocyclitis, and in one place was a necrotic granuloma; there

were no giant-cells. The author thinks it immaterial whether these growths are considered as gummata or condylomata.

Lister, W. T.—A Case of Retinitis Pigmentosa, with Pathological Report. *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3, January, 1903.

The specimens were taken from a man who died insane at the age of 60 years. For 22 years he was known to be suffering from retinitis pigmentosa. The usual speckled appearance was seen in the eyes when they were opened. The retinal vessels were extremely small, and the retina and choroid were intimately adherent. The optic disc was slightly cupped, and was covered by laminated connective tissue, which was continued into the surrounding retina. In the adjoining retina the nerve-fibre layer showed no thickening. There was only one nuclear layer visible, and this was much thinner than either of the two usually found. The layer of rods and cones was altogether absent. In the retina of the central area all traces of the normal structure were practically lost. The choroid was atrophied and the chorio-capillaris had disappeared.

Lister makes some remarks on the pathology of the disease.

Marshall, C. Devereux.—On certain Diseases of the Cornea met with in Children. *The Practitioner*, January, 1903.

In this paper various forms of keratitis are discussed, but the communication chiefly centres round phlyctenular keratitis. The treatment is fully entered into, and much stress is laid upon the harm done by some of the older methods, especially by setons, that have been, and still sometimes are employed.

De Vries.—On Glioma and Pseudo-Glioma. (Over Glioom en Pseudo-Glioom.) *Ned. Tijdschrift v. Geneesk.*, 1903, No. 7, P. 383.

De Vries relates a few cases of true glioma and two others, in which purulent exudations in the vitreous led to the erroneous diagnosis of glioma. In a third case (of which a full description is given) the diagnosis of glioma was made, because a white mass could be seen behind the lens. This seemed to be rapidly growing. After enucleation, a persistent hyaloid artery was found, attached to a cone of fibrous tissue on the posterior surface of the lens. From this mass numerous bands extended to the ciliary body. The apparent growth of the pseudo-tumour was simulated by a progressive posterior cortical cataract.

G. F. ROCHAT.

Schoute.—On the relation between Illumination and Refraction. (*Over het verband tusfehen licht sterlete en Refractie*). *Ned. Tijdschrift v. Geneest*, 1903, No. 8, p. 408.

In Schoute's experience, refraction is not changed by gradually diminishing the light. He took the refraction in both the principal meridians of his own slightly astigmatic eyes, under decreasing illumination, so that his vision sank from 8/8 to 8/60, without being able to notice any increase in the refraction. Therefore, he cannot confirm the observation of Charpentier, that in dim light the eye becomes more myopic. Further investigations will show if this change perhaps occurs in myopic eyes only, Charpentier and his assistants being myopic.

G. F. ROCHAT.

Lewis, Eugene Richards.—The Conservation of Binocular Single Vision. *Annals of Ophthalmology*, January, 1903.

In a most interesting and extended article upon the above subject, which must be read in every detail to be justly appreciated, Lewis arrives at the following summary:—"1, the only congenital attribute of vision is proper light perception. All other visual attributes depend upon *learning* on the part of the child; 2, in many cases certain influences cause this learning to be directed into other than normal paths, in which event the act of binocular single vision is not learned; 3, lack of binocular single vision is a very prevalent condition; 4, this lack represents great loss to the individual; 5, cases in which the causal influences can be removed, may be differentiated from those in which such removal is impossible; and 6, proper measures adopted at the right time will result in conservation of binocular single vision in a large number of cases."

C. A. OLIVER.

Holmes, Christian R.—Glioma Retinae, with Report of Five Cases. *Journal of the American Medical Association*, 28th March, 1903.

Holmes says that glioma is a disease which is limited to childhood, and considers it the only true neoplasm developing in the retina. Knapp, in 1867, was the first to give an accurate and scientific description of this class of tumors. Virchow, believing that the cells of this form of neoplasm were derived from the glia or supporting fibres of the retina gave it its present name. Two years after Knapp's description, Iwanoff described the structure of the growth most accurately. More recently Wintersteiner has tabulated a series of five hundred

cases from all sources (thirty-one of these being his own and studied under the microscope). This author, Holmes says, practically observed that the origin of the disease is three times more frequent in the inner than in the outer layer of the retina.

The origin of the growth is not limited to one layer of the retina, the neoplastic elements may spring from several layers in the same case. It has been observed that it arises four times more frequently from the posterior half of the globe than from the anterior half.

The author reminds us that Wintersteiner accepts Cohnheim's theory of unemployed embryonic cells taking on active and perverted growth. He takes note of Schöbl's observation that the neoplasm may start from the supporting fibres of any of the retinal layers, although most frequently from the inner nuclear—a layer in which da Gama Pinto has found the nuclei most generally in the process of karyokinetic division.

He says "that glioma is a form of tumor independent of and different from sarcoma, was first doubted by Cornil and Ranvier; later, gliomata were termed small round-celled sarcomata by Delafield, and Nagel agreed in this opinion. From Virchow's standpoint, the supporting tissue of the retina cannot be considered identical with common connective tissue, and from the standpoint of Klebs the gliomata are derived even from a different germinal layer than that from which the sarcomata arises."

He believes that "the clinical picture of glioma also is so well defined that to confound it with sarcoma is against good judgment."

Becker, he informs us, "thinks that there is a sufficient number of mesoderm cells in the blood cells to give rise to sarcomata. To this it must be answered that their origin from the granules of the nuclear layer directly, especially of the inner one, can be observed, and that processes of division can be seen there, as da Gama Pinto, Schöbl, and others have witnessed, and that not a single observer has found a glioma starting from a retinal blood vessel; while with sarcomata this is nothing rare."

According to Virchow, the most frequent mixed tumor is glio-sarcoma. When spreading, the protoplasm is increased, or, in other words, the cells assume the character of small round-celled sarcoma. "Berthold was the first who asserted that gliomata may assume a sarcomatous character, after having spread into the choroid, and that this membrane, irritated by the entering of the glioma cells, furnishes the sarcomatous elements. In a reverse way it may occur that

sarcomata of the choroid take on a gliomatous character. This, perhaps, explains Von Graefe's two observations of gliomas in adults. Prof. Schöbl's remarkable case of gliofibro-sarco-myo-angioma confirms the statement that the character of the tumour often depends on whether or not it has invaded other tissues."

"Greeff has examined fresh gliomata by the impregnation methods of Golgi and Cajal. By the latter method he succeeded in demonstrating the presence of differently shaped cells in retinal glioma. He found numerous oval and star-shaped cells with free offshoots which were undoubtedly true neuroglia cells and the original cells of the tumour. From Greeff's investigations, it appears certain that gliomata are not neoplasms of sarcomatous nature, since impregnation of the cells after Cajal's method could not take place."

"It is believed by some authors that neuro-epithelioma of the retina is always congenital, or at least that a predisposition exists through some disturbance in the process of development."

The author informs us that glioma spreads in the retinal structure by enlargement of a single or the confluence of several smaller nodules, or by metastasis within the retina, this extension taking place through the interlamellar spaces, the lymph channels, and the blood vessels.

It is characteristic of the development of glioma, the author tells us, that the growth not alone displaces other structures by pressure, but replaces them by neoplastic tissue.

The diagnosis between gliomata and other tumours is easily made, but the differentiation of pseudo-glioma is fraught with many difficulties, but only when the disease is well advanced. We must, he says, "differentiate from ; 1, detachment or cysts of the retina ; 2, tumours of the choroid and ciliary region ; 3, masses of inflammatory exudate in the vitreous (pseudo-glioma), and 4, the combination of true glioma with any of the above.

"The greatest difficulty in making a correct diagnosis occurs when the cornea, aqueous, or lens have undergone such changes as to prevent inspection of the interior of the globe, cataract being the most frequent condition encountered. As a rule, we may state that inflammatory exudates into the vitreous give a yellow reflex, with a metallic lustre and smooth surface, while the color of glioma may be a light yellow, reddish or greenish-yellow and the growth is nodular.

"The diagnosis may be complicated further by the formation of a post-inflammatory membrane or exudate upon the hyaloid membrane directly behind the lens, by chronic inflammation

and fibrinous exudate into the vitreous, or by acute suppurative hyalitis. From detachment of the retina it should be readily differentiated by a careful ophthalmoscopic examination, and from tumours of the choroid by the fact that they are nearly all pigmented. Leucosarcoma of the choroid is rare, and its growth is dissimilar to that of gliomata. It develops as a solitary, half-round mass over which the retina may be atrophied, but does not form reduplications and thickened masses."

Fortunately, neuro-epithelioma of the retina is rare. The disease is absolutely limited to childhood, and is often well advanced at birth. The percentage of involvement of both eyes is very large. "It is of interest to remember that the second eye appears never to have been found to become involved by an extension of the disease along the optic nerve and through the chiasm from the first eye. Where both eyes are affected the disease always develops independently in each eye."

"The disease may be divided into three stages of development: 1, period of intra-ocular growth, without increased tension or inflammatory symptoms; 2, glaucomatous or inflammatory period, which ends with rupture of the globe; and 3, the period of extra-ocular growth and metastasis."

"Death may result from: 1, involvement of the brain; 2, cachexia; 3, pressure of the growth on the medulla oblongata; 4, suffocation from extension of growth into the pharynx and larynx; and 5, pyæmia or septicæmia, with metastatic abscesses. The duration of life when there is no surgical interference varies greatly, but from a few months to three years is the average."

"If there is no return in two years after enucleation the case may be regarded as cured so far as that side is concerned, but we must remember that the disease may occur in the other eye a considerable period after the first eye has become affected, and we must then regard it as an independent attack in the same patient and not a recurrence of the primary growth."

"The only treatment that can be considered as offering any chance of saving life is removal of the affected eye, with as much as possible of the optic nerve, at the earliest possible moment during the first stage. In operations undertaken during the second stage, before the rupture of the cornea, the chances of success are very slight, since the infection has often extended outside of the globe through the venous or lymph channels. But even then it is our duty to operate, and exenteration of the orbit should be added to the enucleation of

the eye, if we hope to arrest the disease. In this stage," Holmes regards, "the use of pastes far superior to the use of cutting instruments, because the liability of opening up new avenues of infection is much greater in the latter method. 939739.

"When the case has once entered the third stage the rule is that, no matter how thoroughly exenteration is performed, there is always recurrence within a few weeks, and operation in this stage is only justifiable in order to afford temporary relief."

The author asks "shall we advise enucleation if both eyes are affected?" Since cases of undoubted glioma—as proved by the microscope—have been cured after double enucleation, and as the disease springs from a separate and independent focus in each eye, we should answer this question in the affirmative, and urge the operation if the disease has not progressed beyond the first or second stage in either eye. For, if life is saved, blindness to a child at this period is not a barrier to its acquiring an education and becoming a useful and independent citizen.

C. A. OLIVER.

Ginestous and Llaguet.—A caustic and painless crayon of sulphate of copper, for the treatment of granulous conjunctivitis. (*Crayon caustique et indolore au sulfate de cuivre, dans le traitement de la conjonctivite granuleuse.*) *Congrès des Sociétés Savantes, Bordeaux, 1903.*

Impressed by the painfulness of "bluestone" in the treatment of trachoma, the authors have devised a crayon which combines several analgesics with the copper sulphate. They find that a pencil composed as follows fulfils the three essential conditions of being soluble, caustic, and painless. They have obtained excellent results in trachoma by this means.

Sulphate of copper	..	..	1 gramme
Orthoform	..	..	0 gramme 50
Hydrochloride of holocaine	..	..	0 gramme 40
Gum tragacanth	..	..	0 gramme 10
Distilled water	..	..	Q.S.

S.—To make a crayon 5 cm. in length, containing one-half its weight of copper sulphate.

A. DARIER.

Dhout.—Retro-bulbar Abscess. *Ned. Tijdschrift v. Geneist*, 1903, No. 7, page 390.

Dhout describes two cases of protrusion of the eyeball in retrobulbar abscess, in which some difficulty was found in the diagnosis. In the first case, inflammatory symptoms, to begin

with totally absent, appeared after a few days, and an abscess was found behind the eye. Incisions were made, and there was recovery with loss of sight. The second case was due to a sarcoma, with a central necrosis.

G. F. ROCHAT.

Goldzieher, W.—The surgical treatment of gonorrhœal ulceration of the Cornea. (A Cornea gonorrhœas Fekelyesdesének operatív Kezelése.) *Orvosi Hetil*, Budapest, 1903, XLVII. 163, and *Szemészeti lapok*, Budapest, 1903, No. 1.

Ulceration is the chief danger as regards the cornea in gonorrhœal ophthalmia. Even if only partially destroyed, a staphyloma is subsequently formed, which, at the best, impedes sight seriously. Goldzieher treated several cases of the kind by fixing a flap of conjunctiva over the ulcer. The result was invariably favourable. The infiltrated cornea cleared, hypopyon disappeared, and the danger of staphyloma was avoided. In dealing with a prolapse of the iris, or with a formed staphyloma, these must be first removed, and the parts then be covered with conjunctiva. The conjunctival flap, it may be noted, adheres only to the ulcerated parts.

RICKÁRD VIDÉKY.

Davidson's Portable Dark Room for Retinoscopy. *British Medical Journal*, January 10, 1903. P. 88.

Robinson, William. — **Bottle-finishers' Cataract.** *British Medical Journal*, January 24, 1903.

Robinson finds hard cataract to be relatively common amongst bottle-finishers, *i.e.*, workmen who are exposed to glare from a sea of molten glass. The exposure is estimated at about 5½ hours a week. The disease, it appears, practically always affects both eyes, begins comparatively early in life, and slowly progresses to maturity. It begins at the posterior pole of the lens, and thence spreads gradually to the rest of the cortex. When the cataract is "ripe," the lens has a markedly pearly hue. According to Robinson, this form of cataract is undoubtedly due to the great heat and light of the furnace at which the bottle-finisher works. That the mischief begins at the posterior pole is due, the author thinks, to the focussing of heat and light rays at the nodal point situated at that spot. Then, too, the bright glare of the furnace causes the pupil to contract, and thus the periphery of the lens is, to begin with, shielded from damage. As a measure of prevention, Robinson recommends that the men should wear dark, pure-blue, protective spectacles at their work.

Collins, Captain D. J.—Cataract Extraction without Capsulotomy or Iridectomy. *British Medical Journal*, January 3, 1903.

Captain Collins, R.A.M.C., reports the case of a nervous Hindoo patient, aged 65 years, whose cataractous lens, enclosed in its capsule, escaped from the eye immediately after the usual incision had been made through the cornea. The patient made a rapid and uninterrupted recovery.

Benson, Arthur & Earl, Dr.—Conglobate Tuberculous Tumour of the Choroid. ROYAL ACADEMY OF MEDICINE IN IRELAND, November 7, 1902.

Benson and Earl showed a tuberculous tumour of the choroid from a girl of 14 years. The growth occupied almost the entire interior of the globe, the vitreous being pushed to one side and the lens remaining clear. There was no tuberculous family history nor any personal evidence of tubercle. In sections of the tumour, caseation and giant-cells were visible. The growth was adherent to the sclera in one place.

British Medical Journal, January 3, 1903.

(1) **Critchett, Sir Anderson.—Conical Cornea: Its Surgical Evolution.** London: MORTON & BURT, 187, Edgware Road, W. 1903.

(2) **Williams, Richard.—Conical Cornea.** *Lancet*, May 16, 1903.

(3) **Critchett, Sir Anderson.—Conical Cornea.** *Lancet*, May 23, 1903.

(4) **Williams, Richard.—The Treatment of Conical Cornea.** *Lancet*, May 30, 1903.

(5) **Cant, W. J.—Conical Cornea.** *British Medical Journal*, June 20th, 1903.

(1) Sir Anderson Critchett's *brochure* consists of extracts from papers contributed by him on Conical Cornea to the *Practitioner* in 1895 and to the International Ophthalmic Congress in 1899. To these he has added some brief notes embodying his later experiences of the operation he advocates for the cure of the disease. After tracing the history of the surgical treatment of keratoconus, Sir Anderson describes the operation that he claims (page 20) to have initiated. By means of a flat electrode at a very low heat, the whole of the affected portion of the cornea is lightly cauterised. At a slightly

increased heat, the electrode is next applied within the area marked out by the first application. Finally, using a smaller cautery point at a dull maroon heat, the centre of this second zone is burned deeply, but without perforating the cornea. Three distinct zones of varying depth are thus made, the whole bearing some resemblance to a target, and, according to the author, these exercise a graduated pressure upon the affected parts of the cornea. The results are said to be excellent, and in few of the cases operated upon by Sir Anderson by this method, has it subsequently been found necessary to perform an optical iridectomy.

This interesting little pamphlet is disfigured by a few misprints and one curious expression, but these, of course, do not in the least detract from its scientific value. "Partially" is spelled "partialy" (page 7); on page 12 we are told that a patient who had been operated upon for conical cornea recovered sight equal to $\frac{2}{3}$ "without any glacial correction"; a "spherico-cylindrico lens" is mentioned on page 16; the final "y" is omitted from the word "cautery" on page 18, and a somewhat similar mistake occurs on the following page.

(2) Williams, in the course of a somewhat controversial letter to the *Lancet*, joins issue with Sir Anderson Critchett's claim to priority in the above operation. He advocated a somewhat similar procedure at the British Medical Association in 1888—that is, 7 years before Sir Anderson's communication to the *Practitioner*.

(3) In the present communication, Sir Anderson Critchett very candidly admits that he had overlooked Williams' paper.

(5) With regard to the treatment of conical cornea by means of the cautery, Cant draws attention to the following dates of various communications made upon the subject:—

1. Andrews, *British Medical Journal*, November 8th, 1884.
2. Cant, *Ibidem*, July 23rd, 1887.
3. Williams, *Ibidem*, February 23rd, 1889.
4. Critchett, *Practitioner*, 1895.
5. Critchett, *Transactions of the International Congress*, 1899.
6. Critchett, Reprint in pamphlet form, 1903.

Müller, Leopold.—The cure of detached Retina by surgical measures. *Wiener Klinische Wochenschrift*, April 30th, 1903.

Müller showed at the Royal Medical Society of Vienna, a

case of detached retina cured by his own surgical operation. There had been 9 D. of myopia in the right eye, and in the left eye 4 D. of hyperopia with congenital amblyopia. In June, 1901, the right (myopic) eye became blind in consequence of detached retina. R.V.=fingers. Various common methods of treatment having proved unsuccessful, Müller operated upon the patient. The method adopted was as follows:—resection of the external wall of the orbit according to Krönlein's plan, followed by division of the external rectus muscle, first secured by two sutures. After this, an oblong piece (20 mm. long and 8 mm. to 10 mm. wide) was cut out of the sclera in such a way that the anterior edge of the wound lay 1 mm. to 2 mm. behind the insertion of the external rectus muscle, while the posterior edge of the wound lay in about the region of the equator. The choroid was not damaged. Four to five sutures were then inserted, the choroid having been first punctured with a fine needle in order to allow the sub-retinal fluid to escape while the sutures were tied. In the result, the detached retina settled down into place, the visual field became quite normal, and the sight rose to counting fingers at a distance of three metres.

Müller points out that up to the present time the treatment of detached retina has been unsuccessful. The diminution of the eyeball, according to the author, causes reduction of the pressure in the retina and the choroid, an essential point in the production of the condition. In opposition to the generally received theories, Müller thinks that the essential cause of the detachment lies in the choroid. The extremely distended choroid (from whatever causes) gives rise to a transudation, which detaches the retina, and creates space by absorption of the vitreous humour. According to this theory, in every case where the macula lutea is threatened with blindness in consequence of high myopia, operation is necessary. In the case described by Müller the refraction changed from—9 D. to + 4 D. Up to now, Müller has operated by his method in seven cases, all of which have been successful.

RICKÁRD VIDÉKY.

Sfili, A.—On lenses with double focus. *Szemészeti lapok*, 1903, No. 2.

Sfili describes in the present communication a curious form of cataract, little studied until now. The lenticular changes rapidly entail a high degree of myopia, while the cloudiness of the lens sets in much later and progresses very slowly. In the centre of the dilated pupil of the sixteen cases described by the

writer there appeared a small disc through which the refraction was highly myopic, whereas the periphery of the lens had a lesser power of refraction, so that emmetropia or even hypermetropia eventually resulted. These facts may be readily demonstrated by covering up the central disc.

The author reviews critically all the cases hitherto published under the name of *lenticonus* or *lentiglobus posterior*. These conditions originate from foetal rupture of the lens-capsule. They are, therefore, congenital, and show only as much turbidity as is usual with posterior polar cataract. The seat of *lenticonus posterior* is, as a rule, not exactly at the posterior pole of the lens. In the author's cases, the change was certainly acquired, inasmuch as it invariably appeared in later life, and the seat of the change lay constantly in the centre of the lens, where it gave rise to myopia of high grade. Sfli believes that it is not the greater convexity of the posterior pole of the lens that causes the myopia but that there is a change in the power of refraction of the nucleus of the lens. That there appears a difference between the refractive power of the lens-nucleus and the cortex is proved by the fact that more Purkinje-Sansom's images are visible (two upright images). Treatment consists in correction of the central myopia as long as tolerably good sight is thus to be got. In the contrary event, the lens must be removed.

RICKÁRD VIDÉKY.

Goldzieher, W.—A case of injury of the orbit and changes in the eye following a gunshot wound. *Szemészeti lapok*, Budapest, 1903, No. 1.

Goldzieher believes that the changes in the fundus consequent upon gunshot wounds of the orbit are not caused by hæmorrhages, but correspond to a plastic choroiditis, etc. According to his view, the cause of a plastic inflammation lies in the interrupted conditions of nutrition, set up by injury to the ciliary nerves and vessels. That such changes are not caused by hæmorrhages is shown by the fact that extensive hæmorrhages are frequently absorbed without any evil consequences whatever. The changes consist of a choroiditis, involving the retina, followed by the productions of retinal pseudo-membranes coming from the choroidal centres. The changes are in every case of so typical a character that they might be called instances of "chorio-retinitis scolopetaria."

RICKÁRD VIDÉKY.

Marquez, Manuel.—On the action of Codeine hydrochloride upon the eye. *Congrès de Madrid*. 1903.

Marquez compares the local action, as regards the eye, of

codeine and dionine, and concludes from his investigations that (1) a 5% solution of codeine hydrochloride produces effects analogous to those of dionine but of less intensity; (2) its physiological effects include smarting, vaso-dilatation, and chemosis; (3) its most notable therapeutical action is the production of local analgesia, which is mainly explained by the chemosis; (4) codeine phosphate possesses a similar but less pronounced effect; and (5) codeine hydrochloride may perhaps render service in the same cases as dionine, although its action is less energetic.

A. DARIER.

Coppez, H.—A case of Hernia of the Orbital Adipose Tissue.
(Un cas de hernie du tissu graisseux de l'orbite.)

Société des sciences médicales de Bruxelles, 2 mars, 1903.

Coppez reports the case of a girl, aged 18 years, who presented a tumour the size of a hazel nut, situated at the inner part of the right lower eyelid. It resembled a distension of the lacrymal sac. An injection, however, showed that it had no connection with the last-named structure. To the finger, the swelling yielded the sensation of soft dough, and could be dislocated into the orbit. There was no exophthalmos, and the eye itself was normal. An exploratory incision showed that the tumour had the appearance of adipose tissue, and that it was continuous with the orbital fat through a rent in the orbito-palpebral aponeurosis. Three weeks after the operation, the patient, having held her head down and her arms extended for a long time, suddenly experienced local pain, and found that the tumour had reappeared. A compressive bandage was worn, but the growth became progressively larger. On the fifteenth day, the patient experienced renewed pain; the skin became red and glossy; the mass could no longer be pushed back into the orbit, and there was, in fact, a true strangulation. The author then excised not only the tumour but also the lower eyelid at the level of the prominence, and thereby obtained a complete and definitive cure.

HENRI COPPEZ.

Henderson, E. E.—The Ophthalmic Arteries in the Rabbit and Dog. *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3, January, 1903.

This is an anatomical study in which six dogs and six rabbits were used. The arteries were injected with plaster of Paris, and careful dissections were made on each side. The communication is illustrated with numerous diagrams, and will be of considerable use to those engaged in research work on the intraocular circulation.


Parsons, J. Herbert, and Snowball, Thomas.—On the relations between Intraocular Tension and the General Blood Pressure. *Royal London Ophthalmic Hospital Reports*, Vol. 15, Part 3, January, 1903.

This paper is a result of about forty experiments performed upon dogs, together with a few upon cats. After complete anæsthesia, the blood pressure was usually taken from the femoral artery, and occasionally from the carotid artery on the side opposite to the eye that was under observation. The intraocular pressure was estimated, sometimes in the vitreous and sometimes in the anterior chamber. All the animals were completely curarised. Stimulation in the cat of the peripheral end of the cervical sympathetic was always followed by a considerable rise of intraocular pressure, and this is due not to a vascular change, but to the pressure exerted upon the globe by the contraction of unstriated muscle in the orbit. Stimulation of the peripheral end of the fifth nerve had no effect on intraocular tension. Intraocular tension responds passively to all variations in general blood pressure. The intraocular pressure can be varied mechanically, as by stimulation of nerves, drugs, asphyxia, and death. The results of these various methods are recorded in the present communication.

Caralt.—Flat epibulbar epithelioma, enucleation: extension, epithelioma of the face. Treatment. (Epithelioma epibulbar plano. anucleacion; extenso, epithelioma de la cara. Curacion.) *XIVe Congrès Intern. de Medec., Madrid*, and *Arch. de Oftalm. Hisp.-Amer.*, Mai, 1903.

Caralt describes a case of epithelioma originating from the sclero-corneal limbus, which spread to the inferior hemisphere of the eye. There was extension to the eyelids, the nose, the lips, the lacrymal and palpebral glands, etc.

Revue Générale d'Ophthalmologie, 31 mai, 1903.

Bettremieux.—Paradoxical diplopia following an injury to the orbit. (Diplopie paradoxicale après un traumatisme de l'orbite.) *Société belge d'ophtalmologie*, 28 avril, 1903. 

Bettremieux showed a young man, who five weeks before had received an injury on the left supraorbital region. Some days after the accident, when the swelling of the eyelids had gone down, the patient complained of vertical diplopia. The image belonging to the left eye lay below that of the right. A prism of 10° base down placed before the left eye fused the

two images. There was, moreover, at a certain distance, a little crossed diplopia. But, a curious thing! the diplopia became worse when looking up and better on looking down—that is to say, exactly the reverse of what is the case in paralysis of the superior oblique. As regards the movements of adduction and abduction, the diplopia assumed, on the contrary, its usual characteristics. The author does not believe that his case can be explained by a lesion affecting several muscles. He thinks that a slight obstacle existed to the normal functions of the superior oblique, so that the latter became incapable of playing its part in the statics of the eye, although it was still able to lower the eyeball by acting synergetically with the inferior rectus when abundantly supplied with nervous force.

HENRI COPPEZ.

Weeks, John E.—Panophthalmitis from infection with the micrococcus lanceolatus without a perforating wound of the eyeball. *Ophthalmic Record*, February, 1903.

Weeks has made a careful clinical and histological study of a case in which there was an indefinite history of a blow upon the eye that had been received from five to six days before the patient presented himself to the author. Inspection of the globe and of the conjunctiva failed to show any abrasion. The nasal passages and the naso-pharynx did not give any evidence of disease, and there were not any signs of pneumonia or symptoms of influenza. The author believes that the infection in this case apparently proceeded from within, but that the focus from which the micro-organism was derived was undiscoverable. To him the case (which was one of extreme interest) showed the possibility of endogenous infection in cases of slight contusion, which probably reduces the vitality of the tissues, with the possibility of the entrance of micro-organisms into the circulation through lesions which are too small to be visible.

C. A. OLIVER.

Reis, W.—A contribution to the knowledge of a little-known ophthalmoscopic picture in lipæmia following severe diabetes, with remarks upon the pathological anatomy of diabetic changes in the epithelium of the Iris (Zur Kenntniss eines bisher kaum beachteten Augenspiegelsbildes bei Lipaemie in Folge schweren Diabetes, nebst Bemerkungen über die pathologische Anatomie der diabetischen Irisepithelveränderungen). *Arch. für Ophthal.*, LV. 3, 24 März, 1903.

Reis describes the case of a man, 28 years old, who, three

years ago, fell ill and was found to be suffering from diabetes mellitus with six per cent. of sugar.

His vision had always been very good, but he had suffered for some time from headache and amnesia. For some weeks preceding examination of his eyes, he complained of great loss of vision. The vision at this time was $\frac{20}{200}$ ca. The field of vision was a little contracted; no central or paracentral scotoma was found. The fundus of both eyes had a very abnormal aspect. The normal red fundus contrasted with the blood vessels of the retina, which were changed into bright bands and stripes. There were neither hæmorrhages nor papillitis. On the first view, the arteries and veins were not to be distinguished from one another, but, on closer examination, the veins were perceptible as being larger, and near the papilla as having a light-violet colour. The grey-white colour of the vessels was not caused by proliferation of the adventitia, but by alteration of the blood. On the main trunk of the central vein could be seen several narrow stripes, shorter or longer, resembling those which Herrenheiser has observed in retinitis septica, and Von Michel in anæmia perniciosa. The author explains the appearance by diapedesis of red blood corpuscles into the lymph-space of the vessels.

Against the supposition that the disease is to be located in the vessels of the retina (endovasculitis) is the fact that the visual faculty is to some extent preserved, although very much reduced. For this reason we must refer the cause of the strange ophthalmoscopic image not to an alteration of the vessel wall but of the contents of the vessels. The blood of the patient had a very strange appearance. It was dark grey-red and had a colour somewhat resembling raspberry jam, and became covered in a short time with a layer of whitish stripes. Upon examining the blood microscopically, little augmentation of lymphocytes was found, no augmentation of the polynuclear cells, no eosinophile cells, no myelocytes. Therefore, the diagnosis of leucæmia could be excluded. There were also fat drops in the blood, partly as large globules, partly as small granules. The red blood corpuscles were very irregularly formed, and often grouped together.

Of interest was the chemical examination of the blood by Professor Bleibtreu and Dr. Fischer. The proportion of water was only 69.6 per cent., the specific gravity only 10.14, the proportion of fat (ether extract) 18.1 per cent. (neutral fats and cholesterin).

The microscopic examination of both eyes, after fixation with formol and osmic acid, resulted in some interesting

details. Contrary to expectation, the blood vessels had no black coloration by osmic fixation. This result confirms the observation of Flemming, Altmann, and Schmaus, *viz.*, that osmium often fails to indicate fat. Sudan III gave a red colour to the contents of the vessels.

Changes which could explain the amblyopia were not found by microscopic examination.

The lipæmia may be regarded as a terminal symptom of diabetes, and it is possible that ophthalmoscopic examination may sometimes determine the fact that death is imminent.

Besides the alterations of the contents of the retinal blood vessels, changes in the pigment layer of the iris were observed, similar to those described by Becker, Deutschmann, and Kamocki. They consist in cell degeneration, and, while Kamocki found cell proliferation, Reis was unable to prove this. The pigment cells of the ciliary processes were disturbed and swollen, and the pigment dissolved. In specimens bleached by the method of Alfieri and L. Müller, larger and smaller round bodies with sharp outlines, homogeneous structure, and strong refraction of light, were found in these cells. They could be stained deep-blue with the Weigert fibrin method. They were also found between the fibres of the sphincter iridis. The van Gieson method did not stain these products—a fact which proves that they could not be hyalin. The amyloid reactions were also negative as to results. Iodine solution (Lugol) stained the globules brown after treatment with water and hydrochloric acid (Langham). The nature of the homogeneous substance was proved to be glycogen by the above-named reactions and by the new stain with ammonia-lithium-carmin (Best).

The appearance of glycogen in the eye has been lately described by Best, who always found this substance present in inflammatory processes and in tumours. Glycogen in the tissues of the eye in diabetes was, however, unknown until now. The author proved, by the examination of a great number of normal eyes and of eyes suffering from iridocyclitis, that there was no glycogen in the epithelium of the iris. He therefore thinks that the presence of glycogen in these cells is a special indication of diabetes. As a significant fact which confirms the view, he points to the changes of the kidney-cells in diabetes (Armanni, Cautain, Ebstein, Frerichs) which are localized in Henle's loops, and which are a constant and characteristic feature of the same disease. In both cases are found also changed cells of glandular organs, which probably have a secretory, perhaps an

absorptive, function. The pigment cells of the iris, according to the opinion of the author, have the function of destroying toxic substances which are produced in that disease. The glycogen between the muscle fibres, the author thinks, plays quite another rôle from the glycogen in the pigment cells of the iris.

On account of the general and not merely ophthalmological interest of the subject, it is desirable that Reis's researches should be supplemented by other exact examinations of eyes from persons who suffer from diabetes.

BIRCH-HIRSCHFELD.

Koster, W.—A Pocket Skiaskope. (Een zah Skiaskoop.)
Ned Tydschrift voor Geneesteunde, No. 19.

Koster describes a small instrument for retinoscopy, containing + 1, + 2, + 4, + 8, + 16, at one end, and - 1, - 2, - 4, - 8, - 16, at the other. By combination, every *plus* or *minus* lens from 1 to 31, can be had.

G. F. ROCHAT.

Elliot, Capt. R. H., I.M.S.—Notes from Continental Eye Clinics. *Indian Medical Gazette, 1902 and 1903.*

In a series of articles published in the *Indian Medical Gazette* from August, 1902, to May, 1903, Capt. Elliot gives a very readable and interesting account of the results of a recent tour around the chief eye-hospitals of Switzerland, Austria, Italy, Germany, Belgium, and Sweden. The most noticeable features of the operative work at each centre are given. The opinions and practice of many famous surgeons are thus collected for comparison. The comparison might perhaps have been more profitable had it been possible to give the results of various methods; but this, from the nature of the observations, could not well be done.

H. HERBERT.

Grossmann, K.—Polypus of the Conjunctiva. *British Medical Journal, January 3, 1903.*

1. **Royds, William, A. S.—Foreign Bodies in the Cornea.**
British Medical Journal, January 10, 1903.
 2. **Williams, Walter.—Foreign Bodies in the Cornea.**
Ibidem, January 24, 1903.
 3. **Greene, Arthur.—Foreign Bodies in the Cornea.** *British Medical Journal, May 2, 1903.*
-

REVIEWS.

Die Neueren Augenheilmittel (Modern Eye Remedies)
VON DR. M. OHLEMANN. Wiesbaden: VERLAG VON J. F. BERGMANN, 1902. Pp. 171.

Ohlemann's book upon the newer eye remedies is likely to prove useful to those engaged in ophthalmic work. Its pages include references to almost every conceivable means used in the treatment of eye disease. A glance at the titles of the chapters will show how comprehensive the book is. They are as follows:—Mechanical Treatment; Warm Applications; Asepsis and Antisepsis; Chemical Agents; Electricity; Serum and Organo-therapy; General Treatment; and a supplemental chapter on Massage, Dionin, Nargol, etc. The information is brought well up-to-date.

Guide to the Microscopical Examination of the Eye. By Professor R. GREEFF, Surgeon to the Ophthalmic Department of the Royal Charité Hospital, Berlin. Translated by HUGH WALKER, M.A., M.B., C.M., Assistant Surgeon and Pathologist to the Ophthalmic Department of the Glasgow Royal Infirmary. London: REBMAN, LIMITED, 129, Shaftesbury Avenue, W.C. 1901. Pp. 171.

Professor Greeff's little book upon the microscopical examination of the eye has passed through several editions, has been translated into French and Japanese, and is well-known to all who are interested in ocular pathology. Dr. Hugh Walker has recently published an admirable English translation of the second German edition. The book is one of great practical utility, and we are glad that, owing to Dr. Walker's labours, it is now available for English readers. It contains full directions with regard to the methods of procuring, fixing, hardening, embedding, cutting, and staining of eyes. The various processes are described fully and clearly, yet a word is never wasted. The processes have evidently been used extensively by Greeff himself, and it is clear that we are dealing with no servile copy of a book on pathological *technique*. In the second or special part is given a brief histological account of the various tissues of the eye, together with the best ways of demonstrating microscopically the different elements. There are a few diagrams illustrating the ways of dividing an eyeball for examination, Priestley Smith's specimen jars, etc. Finally, we have nothing but praise for Dr. Walker's translation, which reads smoothly and is yet almost a literal one.

E. Merck's Annual Reports. Volume XVI., 1902. Darmstadt, May, 1903.

Amid the deluge of printed matter with which the doubtful blessings of a cheap postage-rate litter our breakfast table, it is now and then possible to pick out something likely to be of service to the busy practitioner. Of such a class is Merck's *Annual Report*, Volume XVI. (1902) of which has just been issued. This is no quack publication, but a carefully collated international summary of what has been published concerning new drugs and chemicals. It is written in English. From our special point of view, the present volume includes the latest views about acetanilide, sodium cacodylate, acoine, Crede's argenticum colloidal, aspirin, atropine methylbromide, cuprol, copper citrate, dionine, hydrogen peroxide, ichthyol, ichthargan, iodipin, jequiritol, nargol, vitreous body, adrenalin, para-monochloride of phenol, and tropacocaine. The *Reports* should find a place on the study table of every progressive ophthalmic surgeon.

Spectacles and Eyeglasses, their forms, mounting, and proper adjustment. By R. J. PHILLIPS, M.D. Philadelphia: P. Blakiston's, Son & Co. 1902.

The third edition of "Spectacles and Eyeglasses," by Dr. R. J. Phillips, of Philadelphia, has now been published. The first edition was issued eleven years ago, and has, during that time, been extensively used by ophthalmic surgeons, especially by those who have to fit their patients with spectacles, as is so often necessary when there is no trustworthy optician near by.

As a guide for this purpose it is excellent, for it is so thoroughly practical, and even for those who are not actually in the habit of fitting their patients with frames, it is always of great value to be familiar with the ordinary methods used by the optician; in this way the surgeon can verify, not only the strength of the glasses, but can also see at a glance whether the frames supplied are suitable or not. The author has not attempted to go into the question of the refraction of the eye nor even into its correction, but he does explain how lenses are ground and how frames are made and adjusted.

Some useful tables are added showing the decentering equivalent to a given refracting angle, and the decentering equivalent to a given number of centrad.

The book has been improved since its first appearance, and some new material has been added. The introduction is very interesting and deals with the history of spectacles. We hope the book will increase its already large circulation, since it thoroughly deserves to be popular.

Practical Details of Cataract Extraction. By H. HERBERT, F.R.C.S., Major I.M.S., Professor of Ophthalmic Surgery at Grant College, Bombay, etc. London: BAILLIÈRE, TINDALL, & Cox, 1903. Price 4s. net.

Major Herbert, of the Indian Medical Staff, has published a book of upwards of 100 pages on the practical details of cataract extraction. Herbert has, by numerous papers of great interest and merit, become so well known to members of the Ophthalmological Society that we feel sure this work will be read with interest. Minute details are entered into, and the book is the result of the experience of between 2,000 and 3,000 cases of cataract operated upon by the author since 1895. With such extensive material from which to draw conclusions, it is particularly interesting to see the methods usually adopted by the author. As a rule, Herbert prefers to make a section with a conjunctival flap, and in the majority of cases he does an iridectomy. Chapter III. is devoted to a description of alternative methods of extraction, including that without iridectomy, which he sometimes performs. A separate chapter is given up to the after-complications that may arise, while the treatment of soft cataract and the operation of removal of the lenses for high myopia are by no means neglected.

The book is essentially a summary of the author's methods of operating, and is refreshingly original and by no means similar to many books that are nothing but reproductions of the work of others. We feel sure that although many will, of course, continue to hold their own views (which will not altogether coincide with Major Herbert's), all will derive interest, and many instruction, by reading the experience of one so competent to form an opinion on the subject.

The Royal London Ophthalmic Hospital Reports. Edited by WILLIAM LANG, F.R.C.S. Eng. Volume XV., Part III, January, 1903. London: J. & A. CHURCHILL, 7, Great Marlborough Street, W.

This volume of the *Royal London Ophthalmic Hospital Reports*, published in January, 1903, contains a number of interesting papers by E. Nettleship, E. T. Collins, J. H. Parsons, W. T. Lister, E. E. Henderson, and William Lang. As each of these communications will be noticed in due course in our abstracts, there is no present need to enter into details concerning them. The volume, as usual, is well printed and illustrated, and bears evidences of careful editing.

A Manual of Ophthalmoscopy for Students and General Practitioners. By J. E. JENNINGS, M.D. London: REBMAN, LIMITED, 129, Shaftesbury Avenue, W.C. 1902. Pp. 180.

Dr. Jennings' small book is exactly what it purports to be, namely, a cheap manual of ophthalmoscopy for students, "post-graduates," and general practitioners. It contains 95 illustrations and 1 coloured plate. The former, as a rule, are well done, but the latter (which contains 7 figures of opaque nerve fibres, posterior staphyloma, optic neuritis, optic atrophy, and glaucomatous cupping of the disc) is extremely crude. The book resumés in small compass the essential facts concerning those conditions and diseases of the eye that can be studied only by the aid of the ophthalmoscope. After describing the methods of ophthalmoscopic examination, including what the author calls "retinoscopy-skiascopy," there are chapters on the normal fundus, congenital anomalies, and diseases of the choroid, retina, retinal vessels, and optic disc. The book is written in a clear and interesting way, and no words are wasted by Dr. Jennings. Its information is well up-to-date and trustworthy. There are very few printer's blunders. Indeed, the only one we have noticed is on page 131, where the name of Sachs is spelled "Sacks." References to British authors abound in Dr. Jennings' book; while it is interesting to note that the book itself is dedicated to two of the surgeons to the Royal London Ophthalmic Hospital, Messrs. Lang and Morton.

Spring Catarrh of the Eyes. By H. DANVERS, M.D. Illustrated with three plates. London: JOHN BALE, SONS, & DANIELSSON, Ltd., 83-89, Great Titchfield Street, W. 1901. Pp. 60.

This small book of sixty pages is based upon a thesis for the Italian degree in medicine presented by Dr. H. Danvers. With a few additions, it is now republished for those who are interested in the study of eye diseases. It describes "Spring Catarrh" (of which the author has collected fifty cases), a chronic affection of the conjunctiva, rare enough in Britain, although common in some other countries, as France and Italy, Germany and Switzerland. Danvers states that the affection, as a rule, is more prevalent in southern than in northern countries, and quotes some interesting figures with regard to its incidence in various parts of the world. He traces a connection between the incidence of the disease, on the one hand, and the relative humidity of the air, on the other, since cases are more frequent when the latter is

high, and *vice versa*. Spring Catarrh, unlike trachoma, is not confined almost exclusively to the poorer classes, while it is essentially non-contagious and sporadic. A good description is given of the symptoms, tarsal and bulbar, of the disease, although it is perhaps curious that no great stress is laid upon one very common symptom, namely, a sense of itching that is well-nigh constant in the cases. As regards the pathogenesis, Danvers appears sceptical as to the existence of a specific micro-organism, although the microbes described by Taylor and by Bellinzona are mentioned. Danvers has been unable to find blastomycetes in excised portions of the affected conjunctiva, a remark which applies also to the endeavour to obtain cultures in potato-broth. Chibret's view, that Spring Catarrh may be an attenuated form of trachoma, is branded by Danvers as a "mischievous theory." Danvers himself inclines to believe in the naso-pharyngeal origin of Spring Catarrh, as expounded by Couëtoux, Gradle, Brunner, Tétau, Heilmaier, and Silex. The author's histological investigations lead him to believe that in the limbal variety the epithelial changes are the most constant sign of the ailment, although he notes that the conjunctival stroma is hypertrophied and relatively thickened. In the tarsal variety, on the contrary, the stroma shows marked hypertrophy and proliferation, and strictly limits the epithelial invasion. In order to reconcile these histological differences, Danvers suggests that the underlying tissues of the parts determine whether the epithelial or the connective elements of the neoplasm shall preponderate. Some good photographs of the histological appearances of Spring Catarrh are given. The differential diagnosis between Spring Catarrh, trachoma, and phlyctenular conjunctivitis is given in the form of a table. It is, however, a little difficult to see why the last-named disease should be stated to leave behind it corneal nebula or leucoma. The book ends with a section on treatment. After enumerating the various means employed for this purpose, Danvers advises the local use of boric lotion, lead lotion, and dermatol ointment, 5 per cent. to 10 per cent. The employment of the extract of supra-renal gland (which is probably the most efficacious treatment) is just touched upon, the experiences of Angelucci being mentioned. The author is opposed to such surgical measures as excision of the growths, except in the tarsal variety of the affection. Upon the whole, Dr. Danvers has written a useful account of a curious malady.

CORRESPONDENCE.

[While the *Ophthalmoscope* will at all times welcome correspondence from its readers, the Editor does not hold himself responsible for any views expressed in this column.]

MR. G. LINDSAY JOHNSON AND THE SPECTACLE MAKERS' COMPANY.

SIR,—Mr. G. Lindsay Johnson, in his letter published in your last issue, puts forth his position as an examiner to the Spectacle Makers' Company, and I am glad to see that he has now resigned, owing to the pressure put upon the Company to include sight testing in the examination. He is, however, strongly of opinion that opticians should be allowed to deal with refraction cases as they have for centuries past, and hence it is not very clear why he feels it incumbent on him to withdraw. He holds that opticians are far better able to test sight in simple cases than the average medical man.

With this view I am entirely in opposition. The ordinary curriculum of a medical student includes a course of ophthalmology, and provided a man has gone through this he should be far better able to work out a refraction case than a man who knows nothing of the organ he is testing.

In support of this view he mentions the certification of midwives. How the two can compare I am at a loss to understand. The vast majority of midwifery cases simply exhibit an ordinary physiological process that would go on just as well without any help at all.

Any surgeon must know that the methods usually adopted by the optician amount to but little more than allowing the patient to choose the glass he likes best, than which a more fallacious method does not exist. Then, again, what is to happen to the enormous number that require mydriatics? Although I am pleased to find that Mr. Lindsay Johnson has resigned his post as examiner, I cannot agree with him that the optician is the person to whom the public should entrust its eyes.

Yours faithfully,

July 2nd, 1903.

F.R.C.S.

SIR,—The letter from Mr. G. Lindsay Johnson, which appeared in your July issue, may well give pause to the astonished medical reader. In the first place (to put the matter bluntly), Mr. Johnson's style is not conducive to a clear apprehension of his arguments. Secondly, his main motive appears to be to avoid direct issues as much as possible. However, the one central fact of this letter, the statement that looms large from a thick mist of verbiage, is the announcement of his approaching resignation from the Examining Board of the Spectacle Makers. He tells us that he has occupied a seat on that Board for all these years that he might protect the interests of the Medical profession, as well as of the public. This solicitude has been so utterly misunderstood by his professional brethren that they have never ceased, one and all, to condemn his conduct in that particular respect. Mr. Johnson tells us that he has continued his examination work for years uninfluenced by the criticisms of his *confreres*. Now that he has condescended to publish some sort of an explanation—however grotesque and unsatisfying—it may be well to cross-examine him on the articles of his faith as set forth in the letter announcing his resignation that appeared originally in your columns. What is the reason of this tardy—one had almost said this deathbed—repentance? Have the General Medical Council or some of the Defence Societies had a finger in the pie, or is it the new Ethical Committee of the British Medical Association, or is it the force of conscience?

Yours faithfully,

London, July 16th, 1903.

TENAX.

NOTES AND ECHOES.

THE following office-bearers for the session 1903-4 were elected at the Annual General Meeting of the Ophthalmological Society on July 3rd, 1903. President : John Tweedy ; Vice-Presidents : Sir Anderson Critchett, C. Higgins, A. H. Benson, A. W. Sandford, C. E. Glascott, A. Stanford Morton, C. E. Beevor, Charles Oldham, and A. Quarry Silcock. Treasurer, John Abercrombie ; Librarian, W. Adams Frost. Council : P. Flemming, W. M. Beaumont, J. Tatham Thompson, E. Treacher Collins, Angus McGillivray, L. Werner, H. Work Dodd, Norman M. MacLehose, E. C. Green, Secker Walker, C. Devereux Marshall, and W. Aldren Turner. Secretaries : Sydney Stephenson and J. S. Risien Russell.

* * * *

A DISTINGUISHED representative of ophthalmology, in the person of Mr. John Tweedy, has just been elected President of the Royal College of Surgeons of England.

* * * *

ACCORDING to the *Lancet*, an optician named Hamilton has recently been appointed "honorary refractionist" by the Canterbury School Board. In the absence of more detailed information, we presume that upon the principle of divided labour, spectacles will be provided by the "honorary refractionist" and diseases of the eye will be treated by a local pharmaceutical chemist. The principle is capable of indefinite extension.

* * * *

A NEVER-RESTING energy stamps the optician bent upon exchanging the workshop and the counter for higher ophthalmic fields. His ways are subtle betimes, but pushful ever. He has won over a rich City guild, and has called into existence a brand-new diploma, signed by eminent professors and—most wonderful of all achievements—by a well-known ophthalmic surgeon. He is now mustered in his hundreds, with numerous letters after his name, ready to play the man of science and to diagnose refractions as well as to discharge his original function of supplying spectacles. Indeed, so greatly hath he multiplied on the face of the land that a second diploma-granting body has been established, whereby

the old-fashioned lens maker is translated into the modern and exceedingly up-to-date "optologist."

* * * *

It is difficult to realise the amount of energy that must have been expended in obtaining such results, to say nothing of the disbursement of much solid coin of the realm. The whole movement, needless to remark, rests upon a sound commercial basis. Bearing all these things in mind, it is not without a foreboding of evil that one notes a possible trail of the "sight-testing optician" over the recently announced "Charlottenburg" scheme. As our readers know, the foundation of a great college for the reaching of higher technology was announced the other day by Lord Rosebery, Chancellor of the University of London. Among the subjects to be taught he mentioned expressly "optical technology." Perhaps our alarm may be due to an imagination rendered over-sensitive by former experiences. So mote it be! Should the opticians have captured Lord Rosebery at this early period of the Charlottenburg scheme, they will have exceeded all previous triumphs *toto cælo*.

* * * *

LAST month the writer of these notes dealt briefly with the eight days' ophthalmic wonder sprung upon the public with white-hot energy by the "yellow press." He then pointed out that there was nothing original in the relief of congenital blindness by operation and the subsequent education of the patient's perceptive centres by means of his newly-acquired faculty. Clearly, the introduction of a grown man to the world outside him in this fashion is dramatic and pathetic enough, and is an incident calculated to afford the most sensational "copy" to journalists of a particular type. It is more than surprising, however, to find a university periodical, professing to deal with medical and other matters, following the catchpenny lead of a scientifically unskilled publication. Yet the *Glasgow University Magazine* of May 27th, 1903, publishes a portrait of Dr. Maitland Ramsay, the hero of the sensation, with a page of letterpress under the heading "Interesting Psychological Phenomenon. Man born blind receives his sight. Original work by Dr. Maitland Ramsay."

* * * *

THE whole thing is startling. Fain would we believe that the lapse is due to the laxity of a busy non-medical editor of a sort of hybrid and lay journal. If so, it clearly proves—were proof needed—the danger of allowing mixtures of the kind to be issued to the public. Would any other than an enthusiastic layman have added at the end of the article the following statement? “We feel that it is but right that the work of a Glasgow graduate and lecturer should have honour in the *Glasgow University Magazine* as well as in the London daily papers; besides, the interest of the work is assuredly great.”

* * * *

DR. MAITLAND RAMSAY may well cry “save me from my friends.” At the same time, it seems just possible that his actions may have been here and there a trifle indiscreet. At any rate, the editor of the *Glasgow University Magazine* assures his readers that the letterpress about the “man born blind” was excerpted from notes by Dr. Ramsay himself, although whether this remark applies to the original paper published in the *Lancet*, or from some other source is not stated. In the former case, the matter would clearly lie outside Dr. Ramsay’s control.

* * * *

WE regret to have to report the death, at the early age of 47 years, of Dr. Karl Heinzl, of Trieste, a well-known ophthalmic surgeon.

* * * *

THE recent Sanitary Congress at Bradford more than maintained the high level of previous Meetings. Much interest was excited in the new section on School Hygiene, under the Chairmanship of Dr. James Kerr, Medical Officer to the School Board for London. Two or three papers were contributed on the eyesight of school children. They contain the latest scientific aspects of this question, vital as it is to the welfare of the coming generation, and deserve the careful attention of the teachers, managers, inspectors, and, so far as that goes, of all who are in any way concerned in the work of education, whether public or private, in any part of the British Empire.

* * * *

GREAT stress was laid at the Bradford Congress on the necessity for instructing teachers and inspectors of schools in practical hygiene.

* * * *

MATTERS ophthalmic have been much to the fore in recent meetings of learned societies. One more occasion of the kind remains to be mentioned, namely, the discussion of ophthalmia neonatorum and its prevention at the Obstetrical Society of London on the 1st of July. The main contention of the opener, Mr. Sydney Stephenson, was that the routine employment of Credé's method should be endorsed by the Society. There was a most interesting discussion, in which many distinguished obstetricians took part. Dr. R. Boxall spoke of the advantages attending the routine use of sublimate vaginal douches before delivery. Mr. E. Treacher Collins advocated the compulsory notification of cases of ophthalmia neonatorum. The advantages of corrosive sublimate as a local application to the eyes were touched upon by several speakers, notably by Dr. Herman. Credé's method was endorsed by Dr. W. S. Griffith, Dr. Amand Routh, and other speakers. It seems a pity that so simple a precaution, which would undoubtedly prevent a great amount of damage and destruction, should not be universally adopted. The Obstetrical Society, however, were unfortunately unable to come to any definite conclusion upon the point. This absence of settled convictions on the part of a learned society called upon to deal with a matter of crucial importance is something more than disappointing.

* * * *

THE Annual Meeting of the British Medical Association promises to be a brilliant success, in spite of the comparative remoteness of Swansea. So far as the section of ophthalmology is concerned, three important discussions are announced, as follows:—1. Eye changes in relation to renal disease, opened by Mr. E. Nettleship; 2. Operative treatment of Conical Cornea, by Mr. A. S. Morton; and 3. The treatment of Strabismus, by Mr. Gustavus Hartridge. The plan has been adopted of printing beforehand a short abstract of the opener's views. This excellent new departure, however, is counterbalanced by the non-appearance of a list of promised papers. As a list of that kind appears under other sections,

it may be presumed that the omission is due to an oversight. It is hardly conceivable that no papers have been sent in. Clearly, the writers of special articles are entitled to a full and sufficient notice of their contributions.

ANSWERS TO CORRESPONDENTS.

CAPTAIN R. H. ELLIOT, I.M.S.—Thanks for your letter, the contents of which have been noted and appreciated. Your article is marked for insertion.

DR. RICKÁRD VIDÉKY.—Abstracts will appear in due course.

DR. JAMES BARRETT is thanked for his communication.

MAJOR H. HERBERT, I.M.S.—There is considerable pressure, but abstracts will be published later.

LIEUT.-COL. E. F. DRAKE-BROCKMAN.—It is gratifying to learn that the journal meets with your approbation.

SENEC.—Your suggestion is so good that it shall be adopted.

DR. LESLIE BUCHANAN.—Contributions from such a source will always be acceptable.

DR. STEPHEN LODGE.—Thanks.

DR. A. G.—(a) The method is one that we do not care to recommend.

(b) See Correspondence column.

Price 10s. 6d. net.

Darier's Ocular Therapeutics

(Second Edition.)

Translated by SYDNEY STEPHENSON, M.B., C.M.,

Hon. Secretary of the Ophthalmological Society.

"This work is a real and valuable addition to the literature of Ophthalmology."—*Lancet*.

"The whole subject is expounded in a masterly manner, and the treatise is a veritable monument of industry and skill..... Without question this is the standard work on ocular Therapeutics, being incomparably the best book that has been produced on the subject. We believe that it will be largely consulted, and, indeed, become a necessary manual, not only in the library of the specialist, but in that of the general practitioner as well. We cordially recommend it."—*Medical Press and Circular*.

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London: J. and A. Churchill, 7, Great Marlborough Street, W.

THE ERRORS OF ACCOMMODATION & REFRACTION OF THE EYE,

A HANDBOOK FOR STUDENTS,

By **ERNEST CLARKE, F.R.C.S.**

Surgeon to the Central London Ophthalmic Hospital; Ophthalmic Surgeon to the Miller Hospital.

Publishers: BAILLIERE, TINDALL & COX, 8, Henrietta Street, W.C. Price 5s. net.

OPINIONS OF THE PRESS.

A trustworthy guide for the student or the practitioner, and will enable him to thoroughly understand the principles on which errors of refraction and defects of the ocular muscles should be treated. The symptoms and diagnosis of Myopia are particularly well given.—*Lancet*.

This book is quite reliable and may take its place with the many other first-class books on the subject.—*British Medical Journal*.

The preliminary chapters dealing with elementary and physiological optics are particularly well written, the chapter on accommodation and convergence deserving special praise. Its existence is justified by the freshness with which the subject is treated, by its all-round excellence, and by its conciseness and lucidity. It is certain to meet with much acceptance.—*Edinburgh Medical Journal*.

The book is singularly free from clinical blunders, is written in a clear and attractive way, and is illustrated by many diagrams and several plates. We consider that Mr. Clarke has produced a useful and trustworthy book, and one that we can cordially recommend to students and practitioners alike.—*The Ophthalmoscope*.

Mr. Clarke's volume will not only be found a reliable guide in practical work, but, by reason of the subject matter having been thoroughly written up-to-date, it will also be useful as a storehouse of information and an intelligible means of instruction.—*The Clinical Journal*.

The preface of this excellent handbook contains the keynote of the whole book: "I have tried to make the following pages . . . essentially practical." Whether the average medical student can afford time to peruse this book or not, he, at all events, may know that by possessing it he has a plain practical guide to the refraction of the eye . . . which we can thoroughly recommend to students, specialists, and general practitioners.—*Medical Press and Circular*.

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Edited by **DAVID WALSH, M.D.**

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London: Baillière, Tindall & Cox, 8, Henrietta Street, Covent Garden.

THE OPHTHALMOSCOPE.

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

VOL. I.—No. 3.]

SEPTEMBER, 1908.

[ONE SHILLING.

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ORIGINAL COMMUNICATIONS.

CONCERNING SOME UNUSUAL FORMS OF OPTIC ATROPHY.

BY JAMES TAYLOR, M.D., F.R.C.P.,

PHYSICIAN TO OUT-PATIENTS, NATIONAL HOSPITAL FOR THE PARALYSED AND EPILEPTIC, QUEEN SQUARE; PHYSICIAN TO MOORFIELDS EYE HOSPITAL, AND TO THE NORTH-EASTERN HOSPITAL FOR CHILDREN.

EACH one must, of course, determine by his own experience what are the unusual forms of optic atrophy. What I should regard as the usual forms of this disease are primary atrophy, as it occurs in tabes dorsalis, atrophy secondary to the papillitis of intracranial tumour, and atrophy associated with disseminated choroiditis. It must also be recognised that atrophy of the optic nerve may follow severe neuroretinitis, occurring in association with Bright's disease. Atrophy may also be the sequel of glaucoma and frequently results from injury to the optic nerve.

Although I have purposely excluded from consideration so-called primary tabetic atrophy, I should like to express my conviction that primary atrophy, identical with that of tabes dorsalis, occurs much more frequently in general paralysis than has usually been supposed. I have been very much puzzled for some years past by cases which I have seen of primary optic atrophy, sometimes with Argyll-Robertson pupil, sometimes without it, in which the knee-jerks were either very active or very sluggish, and in which there were no other tabetic signs. Much light has been thrown on the nature of these cases by Dr. Mott's experiences at Claybury Asylum, which he has been kind enough to communicate to me. He tells me that he has now made *post-mortem* examinations in a good many cases of general paralysis, the mental symptoms of which had developed recently, although the patient had been blind for many years as a result of optic atrophy; and I believe that those cases of optic atrophy, with over active or with sluggish knee-jerks, which have puzzled other neurologists besides myself, will be found as a rule, in the instances in which they are not cases of tabes to be cases of general paralysis. I may say that I have notes now of two cases beginning with visual defect, the result of optic atrophy, in which symptoms of general paralysis developed under observation.

There are some other forms of atrophy which are, perhaps, not very common, but which are of extreme interest to the neurologist. There is one which I should like to mention first, namely that which occurs in disseminated sclerosis. In the great majority of cases this atrophy has all the appearance of primary atrophy, but the disc is not so grey, as it is in tabes, nor, as a rule, are the vessels so small. I think there is very good ground for supposing that in many of the cases this atrophy, which occurs in insular sclerosis, is of the nature of an atrophy following retro-bulbar neuritis. It is not uncommon to find that there is a central scotoma for colours present, even when the atrophy is not well-marked, and when none of the usual toxic agencies can be discovered. I believe that in many of these cases the atrophy is secondary to a focus of inflammation behind the bulb in the optic nerve--a focus which sometimes approaches so closely to the anterior end of the nerve, as actually to be visible on the optic disc. My reason for this belief is, that although in the routine examination of such cases the condition found usually is that of pallor of the discs, in a certain proportion of early cases, one meets with a condition in which there is a slight but quite distinct inflammation of the disc, and this is succeeded by the atrophy and pallor. One thing, I think, is very striking in all those

cases of atrophy in disseminated sclerosis and that is, that in spite of the great pallor of the disc (and in most cases in which atrophy can be stated to be present the pallor is very marked) it is comparatively rare to find any very profound disturbance of visual acuteness. How different this is from the atrophy which occurs in tabes every one will, I am sure, admit. And another point is the fact that, whereas, in tabetic atrophy, the visual acuteness undergoes gradual, and often very rapid deterioration, in disseminated sclerosis the vision often remains unchanged and fairly good during years, in spite of what may be correctly called the extreme pallor of the discs. Indeed, the contrast is so marked, that whereas in cases in which optic atrophy has occurred as an early sign in tabes which have come under my observation, I can only recall two or three in which the atrophy has not rapidly gone on to cause complete and permanent blindness, and yet in all the cases of disseminated sclerosis with pale discs—presumably atrophied—which I have seen, I have never yet known one that went on to complete blindness. I have known a case in which the atrophy has gone on to destroy completely the vision of one eye, but in the other eye the vision has remained fairly good. This, it seems to me, is a point of very marked distinction between the ordinary form of tabetic atrophy and atrophy as it occurs in disseminated sclerosis; and one, I think, the importance of which, in regard to prognosis, everyone will recognise.

There is another form of disease in which a certain degree of atrophy occurs, namely, tobacco amblyopia. I am inclined to think that there is a tendency to make a little too much of tobacco amblyopia; or, rather, to look upon every case of central scotoma, especially for colours, occurring in smokers, even moderate smokers, who also occasionally indulge, perhaps over-indulge, in alcohol, as being of this nature. But I feel sure that there is a considerable class of cases in which these symptoms are present, but yet in which it is exceedingly difficult to be quite sure that there is this particular toxic agent behind the symptoms. I will mention one case to illustrate this: that of a man, *æt.* 53 years, who was referred to me by my colleague, Mr. C. Devereux Marshall, in April, 1901. He came complaining of his vision, and was found to have a colour scotoma in each eye, and he used to smoke not more than half an ounce of shag in two days, that is to say, less than 2 ozs. per week. He had not smoked at all since January, 1901, but he confessed to an occasional glass of ale. His knee-jerks were present, his optic discs were distinctly pale, and he had sugar in his urine in considerable quantity. I think those cases of glycosuria with central scotoma for

colours are of very great interest. There does not seem to be any doubt that a patient who has sugar in his urine may develop a central scotoma for colours after using a very minute quantity of tobacco. How much influence the tobacco has in such a case, it is not quite easy to estimate, because I have seen one case, in every respect like a case of tobacco amblyopia with central scotoma, in which the patient had never used tobacco, and had not tasted alcohol for 20 years, but who had a large quantity of sugar in his urine. I think, then, that these cases of so-called toxic amblyopia, are cases of very great interest, and are cases with reference to which we have still a great deal to learn, both as regards the symptoms and the toxic agent.

In reference to these toxic cases I should like to raise a question, whether, in some instances, the impairment of vision does not ultimately become associated with quite distinct atrophic changes in the nerve, and, if so, what is the factor in such cases which prevents recovery, and leads to the establishment of permanently impaired vision? And I should further like to ask from the experience of others, whether the atrophy in some of those cases tends to become a progressive one? I believe it does in some cases, or, at least, that complete recovery does not take place.

I must now refer to the class of cases, which come before one not very rarely, and possibly come before the ophthalmic surgeon more frequently than before the physician. I have recently seen two cases of optic atrophy, apparently primary, associated with occasional occurrence of severe headache. In both cases there was complete blindness of one eye; in the other the vision was considerably impaired, and in the visual field, there was an almost total absence of the temporal half. In both patients there was a clear history that in the other eye vision failed first in the temporal half of the field. These cases are, I believe, the result of some diseased condition at the optic chiasma. Pituitary tumour may give rise to such a condition, so may distension of the third ventricle, and, of course, it is one of the signs often present in acromegaly: I mention these cases because I think they are very important on account of the fact that they nearly always do come before ophthalmic surgeons, before they see physicians, and because I think it is very desirable to recognise early the significance of the symptoms, and the serious nature of the morbid condition.

The atrophy in such cases is very interesting. In all the cases that I have seen in which there was evidence of presence of tumour at the chiasma, optic atrophy, and not optic neuritis, was present. I should be interested to know whether

any observer has actually seen optic neuritis present in a case which was afterwards proved to be one of tumour at the chiasma.

I have recently observed a case, through the kindness of my colleague, Mr. Percy Flemming, to which I should like to refer. It was that of a man of 45 years, who, eighteen months ago, had an attack of hemiplegia affecting the left side. There was nothing in his condition at that time, or in his past history, to indicate that hemianæsthesia or hemianopia had been present at the onset of the paralysis. His pupils reacted normally to light and during convergence, and his knee-jerks were active. His vision was 6/9 in one eye, and 6/12 in the other; and he had distinctly atrophic discs. This, so far as I can remember, is the only case of bilateral optic atrophy associated with hemiplegia of an ordinary type, which I have seen; but I believe that it occurs more frequently than we imagine. I am confirmed in this belief by the experiences of my friends Drs. Leonard Guthrie and F. E. Batten, who have recorded several instances of optic atrophy associated with hemiplegia. I am quite at a loss to account for such cases, unless we imagine thrombosis or hæmorrhage to have been the cause. This would account for uniocular cases, but it is not easy to imagine a two-sided thrombosis in cases in which, like that I have just mentioned, the phenomenon is a bilateral one.

I have not referred to the family types of optic atrophy—that type especially associated with the name of Leber—because, personally, I have no experience of them. But I have come across at least two cases of optic atrophy occurring in young, apparently otherwise healthy men, becoming only very slowly worse, which I should like to mention. One was a man, æt. 27 years, who did not know that there was anything particularly wrong with his vision until he was rejected for the Royal Navy. He was an engineer, who had never had syphilis and had not taken tobacco or alcohol in excess. He had only one brother; I saw the brother and examined his eyes, and found that he had nothing the matter with him. Yet this man had excessively pale discs, with defective vision, but his pupils reacted normally, and his knee-jerks were present. The other was a lad of 17 years, who had had failing vision for eighteen months. He had had no injury or accident; his family history was good. He did not suffer from headaches, but he did use tobacco in great excess, about half an ounce a day in cigarettes. There was no central scotoma present. The pupils were unequal, the right being the larger, and they reacted normally; but his discs were very distinctly atrophic. The only point in his history which I could elicit as of possibly

some consequence, except the excess of tobacco, was that there had undoubtedly, during at least a year, been excessive sexual indulgence.

I have not attempted in this short paper an exhaustive enumeration of unusual conditions of optic atrophy. I have merely referred to several groups which have interested me, in the hope that more attention may be directed to them, and their true nature and etiology cleared up.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

HEREDITARY NYSTAGMUS.

By ERNEST CLARKE, F.R.C.S.,

SURGEON TO THE CENTRAL LONDON OPHTHALMIC HOSPITAL.

MORE than twenty years ago Mr. Lloyd Owen, of Birmingham, published notes* of a remarkable series of cases of idopathic nystagmus, the defect being transmitted to the male children through the females who themselves were unaffected.

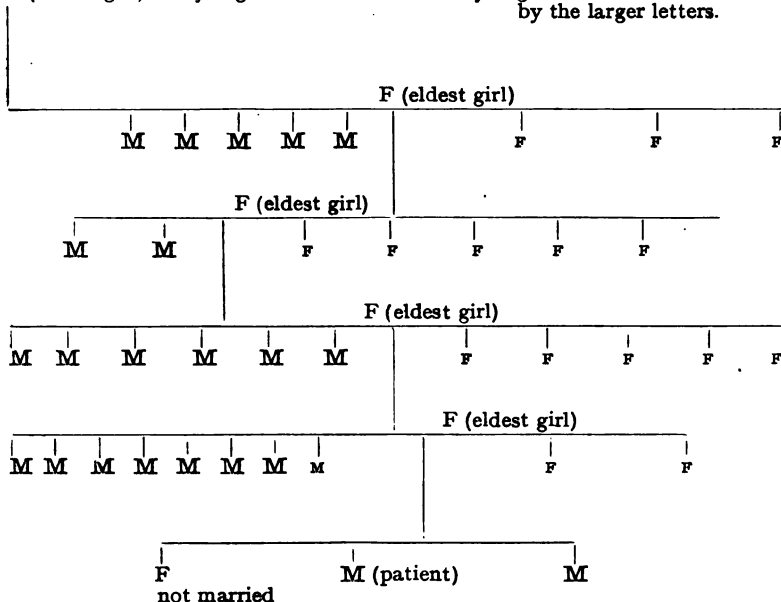
In 1895, Mr. MacGillivray, in a paper read before the British Medical Association, gave the pedigree of a family where both male and female members suffered from nystagmus, which, with one exception, was transmitted by the females chiefly to the males.

A patient lately consulted me at the Central London Ophthalmic Hospital, complaining of "family nystagmus." He was an intelligent educated man, and had taken some pains to make a family "tree" which I append. He had lateral nystagmus and hyperopic astigmatism. He had no head-movements, nor was there any history of this association in the members of his family, thus differing from Mr. MacGillivray's cases.

The very remarkable point about my case of "family nystagmus" is that *no female* suffered from the defect; but the *eldest* female transmitted it to her *male* offspring, and through her eldest girl to the male grandchildren, and so on.

**Ophthalmic Review*, vol. i, p. 239.

HEREDITARY CONGENITAL NYSTAGMUS.

F (eldest girl) *no* nystagmus.Nystagmic individuals indicated
by the larger letters.

(N.B. The male and female members of the respective families have been grouped apart irrespective of the order of birth.)

All the *males* (except one uncle of the patient) suffered from nystagmus, almost all married and had children who had *no* nystagmus.

None of the *females* had nystagmus, but the eldest girl of each family "passed on" the defect.

Most of the females married but (with the exception of the eldest daughter) none of their children had nystagmus.

ON FIXATION OF THE EYE DURING OPERATION.*

By J. TATHAM THOMPSON, M.B.

OPHTHALMIC SURGEON TO THE CARDIFF INFIRMARY.

It has probably fallen to the lot of all of us at times to experience a difficulty in controlling the movements of an eye during operation, even with the assistance of a local or a general anæsthetic.

This difficulty, whilst, as a rule, easily surmounted, does become on occasion one that is vital to the success of the

*A communication read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, July, 1903.

operation. The position of the eye under general anæsthesia is upwards, and the one that the eye naturally seeks for protection, where the lids are forcibly held open by a speculum, is also the upturned one. The position desired in the majority of our operations is the reverse, and it therefore happens that in many cases there is a combat between the natural inclination of the patient and the endeavour of the operator. This is especially the case where the vision of the eye not operated on is insufficient to allow of visual fixation and where the eye operated on sees sufficient to cause the instinctive desire to avoid the coming contact of an instrument ; the class of case in fact, where complete control is most emphatically demanded. In some of these cases where there is perception of light a suggestion of Mr. Priestley Smith's at times proves of great value, namely, to operate by artificial light, using a bright point of light as the object of visual fixation and a lamp for illuminating the area of operation. This is not always available, and where it is, the involuntary movement may endanger the success of the operation.

The ordinary procedure with either the narrow or broad fixation forceps in the conjunctival or episcleral tissues has one great disadvantage. The involuntary pull upwards of the superior rectus and the counter-pull below of the fixation forceps tend to a gaping of the corneal wound, and a similar disadvantage applies where a suture is used in the same position as the forceps, and to a lesser degree to the small hawkbill forceps, which Sir Anderson Critchett uses to the sclera without any speculum.

I do not know that I can claim any originality for the suggestion I am about to make, but no mention is made of this point in the text-books, and it seemed to me that it might be of some practical value to record it.

The difficulty of fixation was presented to me in a marked manner about eighteen months ago in the case of an old lady upon whom I had to operate for cataract. She was of advanced age, suffered from rheumatic gout and cardiac disease, and showed extreme irritability and lack of self-control. I operated first on the left eye, and although there was some difficulty owing to old iritic adhesions, I succeeded after much trouble, due to this lack of control, in removing the lens, and she made a rapid recovery with good vision. Unfortunately she persuaded me to let her leave the private hospital on the 12th day, her home being close by. I warned her against any undue exposure, but four days later she went out in a north-east blizzard without even a veil on, and the consequence was a violent attack of iritis which eventually caused almost complete loss of vision. She begged me to

operate on the other eye, but I had to give up the attempt absolutely owing to her extreme restlessness. Her medical adviser refused to take the responsibility of a general anæsthetic, and the problem of how to ensure fixation of the globe without damage awaited solution.

The proceeding eventually adopted was as follows: the eye was cocaineised and a drop or two of very weak adrenalin instilled. Then two double silk sutures were passed through the subconjunctival tissues about 2 mm. from the corneal margin, on each side, in the horizontal meridian. These were held by my colleague and by their means he was able to control the upward and lateral movements of the eye. The globe could be rotated down even against the pull of the superior rectus, without the same tendency to gaping of the wound which is so observable when fixation is made from the one point below the cornea.

The mooring sutures are well out of the way and do not interfere with bi-manual manipulation on the part of the operator, whilst when the operation is completed they are readily withdrawn.

NOTES OF A CASE OF CONGENITAL NIGHT BLINDNESS.

By AINSLIE HUDSON, M.D., F.R.C.S.Ed.,

LATE HOUSE SURGEON TO THE ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

The following case may prove of some interest. It is one of congenital night blindness which I have had under observation recently. It is one which I do not remember ever having seen before, either in private practice, or during an extended period of study at two of the largest ophthalmic hospitals in London, *i.e.*, Moorfields and the Royal Westminster Eye Hospital.

The patient, a young man of 22 years, came to consult me about his eyes. In addition to a refractive error, I found that he had suffered from night blindness as long as he could remember. On inquiring into his family history, I found that his mother and eldest brother were similarly affected, but no other members of his family, either direct or collateral, that he knew of. He thinks that his condition is improving. It may be that he is getting more used to it—at any rate it is not getting worse. In a good light he sees well enough to do fine work—he is a dentist's mechanic—but if the light fails in the least degree, his vision sinks at once below the normal. To use his own words—"if he passes a well-lighted shop at night he can see perfectly well, but as soon as he gets into

the shadow, he becomes so blind that he walks into any obstruction that there may be in his way."

This would appear from the history to be a case of retinitis pigmentosa, but on examination of the fundus, I found that the usual ophthalmoscopic appearances were entirely absent—there being nothing abnormal in the retina nor any atrophy of the optic disc. Again, his parents were not blood relations, nor could I find any of the usual factors to account for his condition. He states that his vision is no worse than it was as a child; in fact, he thinks that it is better. I have no record of his field at that early stage, but at present it is about one-third contracted, while his refraction is represented as follows:—

$$\begin{array}{l} \text{R. V. } \frac{1}{8} \text{ with } \frac{-1.0 \text{ Sph}}{-2.5 \text{ Cyl. axis } 165^\circ} = \frac{6}{9} \\ \text{L. V. } \frac{1}{8} \text{ with } -2.5 \text{ D. Cyl. axis } 160^\circ = \frac{6}{9} \end{array}$$

From the fact, therefore, that his vision has not appreciably altered since childhood, that his condition is shared by at least two other members of his family, and that there is an entire absence of any ophthalmoscopic signs, pointing to a retinitis pigmentosa (*sine pigmento*, as Fuchs describes it), such as progressive atrophy of the optic nerve and other signs independent of the pigment, I am inclined to look upon the case as one of congenital night blindness, which I believe is rare, apart from such conditions as retinitis pigmentosa, with or without pigment, and certain forms of choroiditis, all of which are accompanied by definite ophthalmoscopic appearances.

Johannesburg, Transvaal.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Colombo (Bologna).—A demonstration of elastic fibres in the cornea of certain mammals. (*Sulla dimostrazione delle fibre elastiche nella cornea di alcuni mammiferi.*) *Annali di Ottalmologia*, Vol. XXXII., fasc. 5-6, 1903.

Colombo has applied Tartuferi's method for the demonstration of elastic fibres to the study of the cornea of oxen and rabbits. He also describes a method of his own for

showing elastic fibres in the cornea of oxen. Briefly, the tissue is first allowed to swell in potassium or in hyposulphite of soda, and is afterwards stained with orceine.

A. ANTONELLI.

Monesi (Bologna).—Some morphological observations upon the human lacrymal passages during foetal life. (Sulla morfologia delle ire lacrimali dell'usmo nella vita.) *Annali di Ottalmologia*, Vol. XXXII., fasc. 5-6, 1903.

Monesi has often demonstrated a partial duplication in preparations of the foetal lacrymal sac. In the case of the lower duplication, it is the posterior part that is continued into the canal, properly called; in the case of the upper duplication, it is the internal part that communicates with an external cavity into which open, together or separately, the two canaliculi. Monesi's researches explain the anomalies found by Tartuferi, who has described diverticula and canalicular cavities in the adult. With the growth of the foetus, the canalicular cavities become smaller relatively to the internal cavity of the sac; the canal also may be duplicated for a greater or less part of its length or it may show diverticula in various directions.

A. ANTONELLI.

Mislawsky, N.—Cortex Cerebri and Iris. *Journal of Physiology*, Vol. 29, No. 1.

As the result of his experiments, the author concludes that the cortex has a double influence:—(1) active, on the centre for dilatation of the pupil, and (2) depressive, on the tonic action of the centre in the corpora quadrigemina. He agrees for the most part with Parsons' results as published in Vol. 26 of the *Journal of Physiology* for 1901.

Parsons, J. Herbert.—The Effect of Increased Intracranial Circulation upon the Ocular Circulation in the Dog. *Journal of Physiology*, Vol. 29, No. 3.

The full paper dealing with this subject has been published in the *Royal London Ophthalmic Hospital Reports* for 1903 (See *Ophthalmoscope*, Vol. 1, No. 2, p. 64).

Van Haaften, A. W.—On the part played by staphylococci in the development of scrofulous ophthalmia. (Over de beteekenis der staphylococcen voor het ontstaan der ophthalmia scrofulosa.) *Thesis for the degree of M.D.* Amsterdam, 1903.

Staphylococci have been found by many observers in the phlyctenular efflorescence and in the conjunctival sac in cases of scrofulous ophthalmia. Are these bacteria the direct cause

of the disease? Van Haaften answers this question in the affirmative, because he found that the micro-organisms in question occurred more frequently and in greater numbers in eyes suffering from ophthalmia scrofulosa than in healthy eyes. Moreover, staphylococci were more numerous in that than in any other form of conjunctivitis. Van Haaften believes that they must therefore possess a certain importance with regard to the development of the disease. It is, however, apparent that the general health of the patient plays a not less important rôle in the etiology of the affection. The ground, he thinks, is prepared for the action of the staphylococci by tuberculosis, which exists in the greater number of the patients. The author tried to prove that staphylococcus infection of the eye runs a graver course if tuberculosis is already present. This he carried out experimentally by introducing a culture of the organism into the cornea (1) of healthy rabbits, and (2) of rabbits previously infected with tuberculosis. The resulting inflammation, as a rule, was more serious and of longer duration in the tuberculous than in the healthy animals.

G. F. ROCHAT.

London, E. S.—The physiological and pathological action of Becquerel Rays. *Berl. klin. Woch.*, June 8th, 1903.

London carried out his experiments with Becquerel or Radium rays with 30 mg. of radium bromide, enclosed in a box, made of gutta-percha and metal, and covered with a mica plate. The third part of the communication deals with observations on blind individuals. Those persons who have faint perception of light receive the impression of light when radium is brought close to one or other eye. This takes place even in bright light. Those who are so completely blind that they have never perceived the sensation of lightning do not respond to radium. Blind persons who have the capability of distinguishing between light and shadow, but who cannot perceive the form of objects when placed in a dark room in which there is a screen illuminated with radium, can see the outlines of objects either projected on the screen or interposed in front of it. London thinks that one will be able to teach blind persons, who have some perception of light, to write and draw by this means, and he has worked out a method. He shows that Becquerel rays can be perceived normally when the eyes are covered, even by several layers of opaque objects. The position of the radium can be localised and its movements determined with covered eyes, and when the box is held behind the head.

British Medical Journal, July 25, 1903.

Anderson.—Effect on the Pupil of Excision of the Ciliary Ganglion. *Journal of Physiology*, vol. 28, No. 3.

Anderson experimented by excising the ciliary ganglion in a series of kittens, and he was able to obtain paradoxical pupillo-constriction of the denervated sphincter. This is not due to increased tone but to increased excitability, brought about by very slight stimuli, such as picking up the animal, &c.

Schirmer.—Studies on the physiology and pathology of the secretion and excretion of the tears. (Studien zur Physiologie und Pathologie der Thränenabsonderung und Thränenabfuhr.) *Arch. f. Ophthalmologie*, LVI, Nr. 2, 1903.

Schirmer has conducted some interesting researches as regards the continuity and the quantity of the lacrymal secretion. It has until now been generally assumed that there was a constant flow of fluid from the lacrymal gland to the nose, but nothing exact was known as to the quantity of the fluid. The calculations of Magaard and of Ahlstroem are open to question, inasmuch as they refer to inflamed eyes. Schirmer examined the amount of fluid secreted in patients when the eye was free from inflammation from whom the lacrymal sac had been extirpated. A streak of methylene blue traced below the lower edge of the lid allowed every tear that overflowed to be noticed. It then appeared that after one to two hours the contents of the conjunctival sac overflowed. In order to determine the quantity lost by evaporation, Schirmer had a receptacle made shaped like the opening between the lids, and this showed a loss of weight of 0.4 gr. during the twenty-four hours. The total quantity of fluid secreted by the normal eye during the sixteen waking hours is $\frac{1}{2}$ to $\frac{3}{4}$ gr. According to Schirmer, the fluid is secreted not only by the lacrymal gland but also by the conjunctiva. By placing small squares of litmus paper on the conjunctiva, Schirmer was able to show that the conjunctival secretion was not altered in cases where the lacrymal gland was paralysed or had been extirpated. The conjunctival secretion could replace the lacrymal secretion, but was unable to produce a surplus of fluid. It was found that cocaine retarded the secretion of tears, not by direct action upon the lacrymal gland, but by the anæsthesia produced. Except in the case of weeping, the lacrymal gland secretes only in response to external irritations. In the absence of the latter, it is quiescent; a minimal irritation, as air at rest, suffices however. During sleep, the secretion of tears ceases entirely.

Schirmer has further investigated the mechanism of excretion of the tears. He shows that the distribution of the

fluid in the conjunctival sac, apart from movements of the eyelids, is effected solely by the action of gravity. No movement of the fluid towards the inner canthus is set up by shutting the lids, although movement of the palpebræ is necessary to push the tears into the lacrymal sac. To prevent the cornea from becoming dry through failure of the action of the lid, Schirmer placed cultures of the *B. prodigiosus* in a small open vessel close to the eye. As long as no movement of the lids occurred, culture tubes inoculated from the nose and throat were found to be sterile, whereas microbes were to be demonstrated in the nasal duct as soon as the lids shifted their position. Schirmer proved by experiment that closing of the lids is not necessary to expel the tears: movement of the lid (*Lidschlag*) suffices, because it causes an expansion of the lacrymal sac. It was found that each nictitation was able to expel about 0.003 gr. of fluid. What force expels the lacrymal secretion from the lacrymal sac into the nasal duct? Schirmer considers that the internal palpebral ligament is stretched by the movement of the eyelid, and is contracted partly by the opening of the eyelid and partly by its inherent elasticity, and in this way exercises pressure upon the lacrymal sac. Regurgitation of the fluid towards the conjunctival sinus is rendered impossible by the narrowness of the canaliculi. Capillary action, the force of gravity, and aspiration during breathing exercise no influence.

In examining the functions of the lacrymal gland, Schirmer employed three methods, as under: first, by placing a strip of blotting-paper (3.5 by 0.5 cm.) on the conjunctiva. If the strip of blotting-paper, which was 0.5 cm. in size, became moistened for more than 1.5 cm. in the space of five minutes, then no diminution in the secretion of tears existed. Secondly, a 4% solution of cocaine is dropped into the conjunctival sinus, and after having placed the strip of blotting-paper in place, the nasal mucous membrane is excited by means of a camel-hair brush. Examination of more than 100 persons, in whom the lacrymal gland was normal, showed that in two minutes more than 1.5 cm. of the blotting-paper became moistened. Thirdly, Schirmer has made use of the excitation of the eye induced by looking at the sun. If the first method shows that less than 1.5 cm. of the blotting-paper is moistened, some diminution in the secretion may be suspected, and the second method should then be resorted to. If the last-named also shows that less than 1.5 cm. of the paper is moistened, a pathological diminution of the secretion must be assumed. Epiphora whilst the eye is at rest is a positive indication of hyper-secretion, provided the excretory ducts are intact. The excretory ducts can be proved to be normal only by passing

a probe. Hyper-secretion, however, may exist without epiphora. Hyper-secretion is caused by reflex irritation, as in diseases of the external eye, or by facial paralysis. The existence of hyperæmia of the gland or paralytic hyper-secretion, Schirmer says, is not demonstrated.

For the details of some interesting pathological cases tested by the methods described above, the reader must be referred to the original communication. It is noteworthy that extirpation of the palpebral gland almost entirely stops the production of tears—not at once, but after the lapse of several weeks. The cause is probably to be found in a displacement of the excretory ducts of the lacrymal gland. The power of secretion remained normal and there were no atrophy of the lacrymal gland after extirpation of the lacrymal sac. Neither blennorrhœa of the sac, nor ectropion, nor chronic conjunctivitis produces any alteration in the lacrymal gland. The epiphora in cases of facial paralysis is referable to cessation of the action of the eyelid.

Finally, it may be noted that Schirmer tests the permeability of the nasal duct by dropping a solution of sodium salicylate (1%) into the eye, and after three minutes getting the patient to blow his nose into a piece of wadding previously moistened with liquor ferr. sesquichlor. (1%). If no violet reaction is obtained upon the wool, disease of the lacrymal duct may almost always be assumed.

A. BIRCH-HIRSCHFELD.

Parsons, J. Herbert and Rockliffe, W. C. — Plexiform Neuroma of Orbit. PATHOLOGICAL SOCIETY OF LONDON, May 19, 1903.

The patient, from whom the specimen was obtained, was a child, aged two years, who suffered from pulsating exophthalmos. Surgical interference became necessary, and, after tying the carotid artery, the orbit was exenterated. The child died shortly after the operation. At the necropsy it was discovered that the roof of the orbit had been absorbed, and that the growth had become intracranial. Upon microscopical examination, the mass was found to consist of convoluted and thickened nerves, embedded in dense fibrous tissue.

British Medical Journal, May 23, 1903.

II.—REFRACTION AND ACCOMMODATION.

Liebreich, R.—The Treatment of Myopia. *Ophthalmic Review*, February, 1903.

In this paper Liebreich describes very fully his ideas on the

use of prisms, which he strongly advocates in most cases of myopia and of hypermetropia, as in the former condition he "considers such a use of prisms as the only positive means of preventing the progress of myopia."

Hall, Geoffrey C.—Glasses for Presbyopia. *British Medical Journal*, July 11, 1903.

Brandes, S.—Astigmatic accommodation under the influence of the local action of Homatropine and Eserine. (Astigmatistische accommodatie onder den invloed van eenzydige inwerking van Homatropine en Eserine.) *Thesis for the Degree of M.D. Leiden*, 1903.

It is still a much-discussed question whether astigmatism can be corrected or not by partial contraction of the ciliary muscle. Brandes has proved that astigmatic accommodation is possible under special conditions.

If a small quantity of homatropine or eserine was applied at the corneal margin, the action for a short time was restricted to the neighbouring parts of the ciliary muscle. If during that time the patient made an effort of accommodation, a marked astigmatism occurred. This could be exactly measured with an instrument devised by Hess (*Archiv. f. Ophthalmologie*, 52, II). The astigmatism amounted to 1 D. after homatropine, and to 2.5 D. after eserine.

G. F. ROCHAT.

III.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Morini (Turin).—Concerning a case of Mucocoele of the right frontal sinus. (Sopra un caso di mucocoele del seno frontale.) *Annali di Ottalmologia*, Vol. XXXII, fasc. 5-6, 1903.

Morini's case presented objective characters that justified rather a diagnosis of gumma or of tumour than of mucocoele. The exact diagnosis, however, was made at the moment of operation.

A. ANTONELLI.

Schauman, D.—A contribution to the frequency and diagnostic significance of pupillary inequality. (Ein Beitrag zur Kenntniss der Frequenz und diagnostischen Bedeutung der Pupillenungleichheit.) *Nord. med. Archiv*, II, 1903.

In the year 1850, Baillarger mentioned inequality of the pupils as furnishing an important sign of progressive paralysis.

Later, after the publication of Argyll Robertson's *mémoire* (1869), much attention was paid to inactivity of the pupils. Nowadays most authors attribute scarcely any importance to unequal pupils unless they are accompanied by a diminution or abolition of their reaction to light (Uhthoff, Peters, Ivanoff, Siemerling, etc.).

Schauman, of Helsingfors, has re-opened the question. He first satisfied himself that inequality of the pupils may be found amongst perfectly healthy persons. Heddæus observed such a condition in 5.8%, Tzwiagumtzev in 10%, and Frenkel in 4% of the individuals examined. Reche, among 14,392 eye patients, found the symptoms to be present in 143 cases—i.e., 1%—without known or obvious cause. Schauman examined from this point of view 1,186 out and 723 in-patients, and found unequal pupils in 27% of the first and 37.87% of the second class. The frequency is equal as regards the two sexes. Schauman found, as did Frenkel and Reche, that the left pupil was more often dilated than the right, in the proportion of 58.9% to 41.1%. In 4% of his cases it was shown that the mydriasis alternated between the two eyes ("see-saw mydriasis"). Schauman concludes that while unequal pupils are met with in from 1% to 10% of healthy people, they occur in from 18% to 46% among patients. The symptom in question is, therefore, much commoner than the text-books would lead one to believe. It is frequent outside organic affections of the nervous system, especially in neuroses, and, above all, in neurasthenia. In every case where no explanation is forthcoming of pupillary inequality, Schauman considers it to be a constitutional blemish.

Revue Générale d'Ophthalmologie, 31 juillet, 1903.

Sinclair, M. McIntyre.—Nystagmus as a Family Peculiarity.
British Medical Journal, May 23, 1903.

To quote Sinclair's own words: "Child A., aged 21 months, had marked horizontal nystagmus from birth; a brother, B., aged 19 years, had the defect well marked in infancy, and it still reappears occasionally if he gets excited. The mother's sister, C., has had nystagmus all her life, and, of her seven children, three present a like peculiarity."

Hoor, Charles.—The primary conjunctival diseases in Egypt.
(Az Egyptoban előforduló kötőhártyai betegségekről.)
Szemészeti lapok, Budapest, 1903, No. 1.

Hoor, during a visit to Egypt, had occasion to discuss the question of trachoma with many prominent ophthalmic surgeons. He comments upon the number of people with bad

sight and atrophic eyeballs met with in the country. Hoor says that the trachoma pandemic in Egypt manifests the same symptoms and is followed by the same consequences as in Hungary. The purely granular form of trachoma is seldom seen in Egypt. The papillo-granular form is that most frequently met with. The natives contract trachoma in early life, and the great agents in spreading the disease are—uncleanliness, density of population, and flies. Next to trachoma, acute blennorrhœa and croupous ophthalmia are the commonest forms of conjunctival disease. They are propagated in the same way and under the same conditions as trachoma. In Hoor's opinion, the numerous leucomata, atrophic eyeballs, and cases of blindness met with in Egypt are mainly caused by blennorrhœa and to a lesser extent only by trachoma. Acute blennorrhœa and pseudo-membranous ophthalmia are identical diseases, the difference between them being only one of degree. Trachoma is the chronic state of both the maladies. The diseases make their appearance usually in August and September in a truly frightful way, and the most severe cases occur in children, while with adults they are of less severity. The cause of the difference is probably this: that the conjunctiva of adults is more or less converted into scar-tissue, and is hence less predisposed to infection. Catarrhal ophthalmia, also frequent, is caused by dirt, dust, the desert-wind, the rapid changes in temperature, the heat, and the warm moist air of Egypt.

RICKARD VIDEKY.

Fage (Amiens).—The more serious forms of Epithelioma of the Conjunctiva. (*Les formes graves de l'épithélioma de la conjonctive.*) Madrid Congress, 1903.

Epithelioma of the conjunctiva is a relatively benign tumour, having little tendency to become generalised or even to penetrate the eyeball. There are, nevertheless, graver varieties, of which two may be mentioned: (1) the perforating form at the level of the limbus, and (2) the form which invades the orbit and the glands by way of the conjunctiva. Since it is by no means always easy to recognise the character of malignancy at the beginning, one must content oneself with removing a portion of the growth. Histological examination will then yield useful indications. If signs of gravity are found, enucleation must be performed, while in spreading varieties of epithelioma, exenteration of the orbit must be done.

ARMAND DARIER.

Schoute, G. J.—A case of intoxication by Cinchonine.
(Een geval van Cinchonine-intoxicatie). *Nederlandsch Tijdschrift voor Geneeskunde*, No. 1, 1903.

Schoute's patient, who suffered from malaria, developed alarming symptoms after the administration of quinine. Under these circumstances, cinchonine—0.4 gramme three times a day—was tried as a substitute for quinine. It was found that if the patient took the remedy late in the evening, she was unable next morning to distinguish the divisions in a clinical thermometer. Later in the day, however, this disability disappeared. Schoute examined her eyes before the cinchonine was given, and found them perfectly normal: her near-point lay at 25cm., *i.e.*, the distance normal for her age. Schoute then administered a dose of cinchonine (0.4 gramme) at 3, 4, and 5 o'clock p.m. At 8 o'clock p.m. Schoute found that the patient's near-point lay at 60 cm. No abnormalities could be detected in the fundus; colour perception and field of vision normal. The paresis of accommodation had passed off in about twelve hours. The author has been unable to find any reference to intoxication by cinchonine in literature. It is curious that the drug in question has no action on the retina, while quinine exerts an energetic action on that membrane. A patient, who has once suffered from quinine amaurosis, is liable to a new attack after a very small dose of quinine, a tendency that appears to last for many years. Schoute suggests that in such a case cinchonine should be employed instead of quinine.

G. F. ROCHAT.

Grauer, C.—Hæmorrhage into the Cornea. (Om blødning i Cornea.) *Nordisk med. Arkiv.*, Bd. XXXVI, 3, May 15, 1903.

A man, aged 50 years, convalescent from diphtheria and albuminuria, spontaneously developed a hæmorrhage in the left cornea of an otherwise healthy eye. Grauer describes the hæmorrhage as a dark, almost black, area, occupying the infero-external quadrant of the cornea, and extending almost to the level of the pupil. The surface of the cornea was normal; the anterior epithelium showed no changes. The hæmorrhage was encircled by a whitish zone. The condition remained without alteration for a year and a half—in fact, until the patient's sudden death from cerebral hæmorrhage. Since the temporal artery was very tortuous, Grauer supposes that vascular changes were the cause of the corneal and cerebral hæmorrhage.

Revue Générale d'Ophtalmologie, juillet, 1903.

Lister, W. T.—Angioid Streaks in the Retina. *Ophthalmic Review*, June, 1903.

Lister excludes all cases of inflammatory origin, and takes only those cases which are bilateral. The histories are of no special interest, and the vision varies considerably. The streaks lie external to the retinal vessels, and there is generally a more or less circular band near the disc. The streaks do not correspond to the retinal or choroidal vessels.

After giving Knapp's and other observers' views as to their origin, Lister describes two cases he has examined histologically. These showed degeneration of the retina, and the rods and cones had disappeared. At the point corresponding to the most marked streak, the retina was detached, and a granular deposit was present. In this were several blood-vessels, and bone formation was commencing. The other specimen showed somewhat similar changes. In both he is in doubt as to the origin of the new-formed vessels, as they correspond neither to retinal nor choroidal ones. It seems probable that they have two sources, *viz.*, (1) from the vessels of the ciliary body, and (2) from those of the optic nerve. These vessels are in the deeper layers of the retina, and they appear essential factors in a system of pigmented striæ similar in level and in many ways in appearance to those seen in cases of angioid streaks. The cause lies in a chronic inflammatory process, and it is probable that some of the retinal hæmorrhages may occur from these vessels.

Berry, G. A.—Primary Acute Miliary Tuberculosis of the Conjunctiva. *Edinburgh Medical Journal*, May, 1903.

The frequency of tuberculous disease of the conjunctiva has been variously estimated to range from 1:30,000 to 1:4,000 of eye hospital cases. This difference is probably due to the symptoms not being very definite, but, anyhow, it is a decidedly rare disease.

Berry's case is that of a girl, aged 10 years, who had swelling and redness of the lids for three weeks, following a burn from the head of a match. The pre-auricular gland suppurated and was excised. There was slight inflammation of the conjunctiva of both lids and a number of greyish patches. The patient was otherwise healthy. The whole of the tumefied conjunctiva was removed and the submaxillary glands were dissected out. There was also a subcutaneous swelling of the facial lymphatics, which were opened and scraped. Microscopical examination and inoculation experiments showed the disease to be tuberculous.

Hurd, L. M. and Holden, W. A.—A case of paraffin injection into the nose, followed immediately by blindness from embolism of the central artery of the retina. *Medical Record*, July 11, 1903.

Hurd and Holden report that immediately following an injection of paraffin for the correction of "saddle-nose" the patient complained of blindness in the right eye. The melting point of the paraffin mixture was 110° F. Ocular examination showed the veins normal, but the main inferior branch of the central artery of the retina and its divisions were empty and collapsed. The main superior branch contained some blood, but when gentle pressure was made upon the eyeball the blood column here broke up and the blood flowed backward into the central artery. Cardiac stimulants, massage, etc., calculated to force the embolus on into a branch of the artery and thus afford partial vision, were unsuccessful. Other cases in literature are referred to in which embolism followed a similar operation. The writers conclude that the obvious lessons taught by these cases is that loss of vision, and even of life, may follow the injection of paraffin into a vein. This danger could be partly avoided by performing aspiration after the introduction of the needle, and if there was no evidence of penetration of a vein, injecting the paraffin through the needle without moving it. There would remain, however, the possibility that the needle had passed entirely through and beyond a vein, and then the paraffin under high pressure might pass backward and thus gain entrance to the vein.

American Medicine, July 18, 1903.

Stevenson, Surgeon-General W. F.—Notes on Surgical experiences of the Boer War. *Journal of the Royal Army Medical Corps*, August, 1903.

In the course of a most instructive communication, Stevenson relates the following case of gunshot fracture of the skull. A Mauser bullet traversed the skull horizontally, passing through both occipital lobes. On recovering his consciousness, which was lost for a short time after the injury, the man found that he was totally blind. The blindness continued for six hours, and then began to disappear. Vision improved fairly rapidly for a week, and then much more slowly. At the end of six weeks, the patient could find his way about, but sight was still very defective. The curious part of the case was that no other symptom, cerebral or otherwise, was present before the man was invalided home.

Fleming, R. A.—Retinal Hæmorrhages in Fracture of the Base of the Skull. *Edinburgh Medical Journal*, April, 1903.

Fleming describes minutely cases in which retinal hæmorrhages follow a fracture of the base of the skull. In such cases when there was a great amount of subarachnoid hæmorrhage, retinal hæmorrhages were common—in fact almost the rule. Further, when the subarachnoid hæmorrhage was unilateral there was generally also hæmorrhage in one retina only, but not always on the side affected. When, however, subarachnoid hæmorrhage comes on gradually, no retinal hæmorrhages are produced. He then proceeds to examine 12 cases, in 11 of which the base of the skull was fractured, and in one there was a fracture of the squamous portion of the temporal bone. The cases fall into three groups. (1) Contains five cases of fracture in which subarachnoid hæmorrhage was mostly unilateral, and retinal hæmorrhages were present, but confined to the eye on the same side. (2) Contains two cases of fracture of the base in which the hæmorrhage was about equally marked in both eyes. (3) Contains five cases of fracture of the base in which there were no retinal hæmorrhages visible to the eye after death.

The conclusion drawn is that a subarachnoid hæmorrhage, if sufficiently rapid in its development, will cause retinal hæmorrhages, and that if the effusion is unilateral, the hæmorrhage will be confined mostly to the affected side. The exceptional cases are those in which with very considerable hæmorrhage in the subarachnoid space, no visible retinal hæmorrhages occur. These lesions of the retina are of considerable diagnostic value.

Zapatero.—Etiology and Prophylaxis of Trachoma. (Etiologia y Profilaxis del Tracoma.) *XIV^e. Congrès Intern. de Med., Madrid* and *Arch. de Oft. Hisp.-Americ.*, mai, 1903.

Zapatero shows that trachoma specially develops in the temperate zones of 16° to 24°, and is scarcely to be found in extreme climates. The patients are principally elderly persons and adolescents. This contagious malady is observed in all races, especially in weakly subjects. Irritations and inflammations of the conjunctiva favour its development, and its extension is increased by crowding, uncleanness, and want. The prophylactic measures are (1) Popular ones (to enlighten the public upon contagion and treatment of the complaint); (2) Charitable ones (creation of free consultations.

sanatoria); (3) Legislative ones (sanitary inspection, isolation); (4) Scientific ones (the teaching of ophthalmology).

Revue Générale d'Ophthalmologie, 31 mai, 1903.

Bruce, Alexander.—Double Paralysis of the Lateral Conjugate Deviation of the Eyes. EDINBURGH MEDICO-CHIRURGICAL SOCIETY, February 4, 1903.

Bruce's patient, a woman of 23 years, was stunned by a blow on the head, and on recovering consciousness complained of giddiness. After that there developed, first, a paresis of the left internal rectus muscle on looking to the right, and then, a difficulty in turning the eyes to the left and left facial paresis. When seen by Bruce, there was loss of the lateral deviation of both eyes to the left, impairment of the movement of the left eye during the attempt to look to the right, and the facial paresis. Crossed diplopia was present on looking to the extreme right. No optic neuritis. All other motor and sensory functions were normal. The diagnosis was made of a small lesion destroying the left sixth nucleus, infiltrating the facial nerve, and partially involving the connection between the right sixth and the left third nucleus. The patient eventually succumbed to what appeared to be a localised meningitis. The autopsy showed a limited posterior basal tuberculous meningitis, which had evidently originated from a tuberculous tumour nearly filling up the fourth ventricle.

British Medical Journal, February 28, 1903.

Westcott, C. D. and Pusey, B.—Early eye symptoms in a case of *Myasthenia gravis*. *Journal of the American Medical Association*, July 11, 1903.

Westcott reports a case with the statistics of the condition collected by Pusey. The latter's list contains 22 cases. In 12 there was partial or complete external ophthalmoplegia, in 9 diplopia, in 14 ptosis. In 13 of the 22 cases the paralysis of the eye muscles were of the very early symptoms, and this is true of the case now reported. Chances for recovery are probably favoured by an early diagnosis. There was absence of involvement of the ciliary muscle in the cases studied by Myers. This fact and its histologic difference give rise to speculation. The development of myopia in Westcott's case suggests a question as to relationship.

American Medicine, July 18, 1903.

Ewart, J. Hoggan.—Large piece of Glass embedded in the Orbit for twenty years without causing symptoms; removal. *Lancet*, August 1, 1903.

Ewart removed under an anæsthetic a sharp piece of glass, measuring 3 cm. in length, 1 cm. in breadth, and 1.75 mm. in thickness, from a woman's orbit, where it had lain for twenty years without giving rise to any symptoms, except a small sinus during the last three weeks of its sojourn. The original accident had been the breaking of a clock-glass, which had cut her eyebrow, and the wound had been sewn up, without the presence of the foreign body being detected.

1. Ashby, Henry, and Stephenson, Sydney.—Acute Amaurosis following infantile convulsions. *Lancet*, May 9, 1903.

2. Carpenter, George.—*Ibidem*, May 23, 1903.

3. Ashby, Henry, and Stephenson, Sydney.—*Ibidem*.

1. Ashby and Stephenson report five cases in young children where acute amaurosis, accompanied or not by hemiplegia or aphasia, closely followed an attack of convulsions. The ophthalmoscopic appearances, with one doubtful exception, were normal, and sight was eventually regained. The authors believe that these cases are altogether distinct from those where children suffering from posterior basal meningitis lose their sight temporarily without ophthalmoscopic signs. They are convinced of the post-eclamptic origin of their present cases. They, of course, admit that convulsions do not constitute a self-standing disease, but their point is, that, whatever the origin, the convulsions themselves are the cause of the amaurosis. Ashby and Stephenson conclude their communication as follows:—(1) that there is a form of amaurosis which is post-eclamptic, due to anæsthesia of the visual centres; (2) that the convulsions, which may be due to various causes, are apt to be severe and accompanied by coma; (3) that the amaurosis may be associated with aphasia and paresis of hemiplegic distribution; and (4) that the amaurosis is for the most part transient. It is possible that in some instances there is hemianopia.

2. Carpenter, in the course of a letter to the *Lancet*, urges that meningitis could not be excluded from some of the cases of amaurosis reported by Ashby and Stephenson, whilst in others there was the possibility of an intracranial hæmorrhage having occurred. He thinks the occasional persistence of hemiplegia a strong argument against a functional cortical disorder, and points out that the fact of a child recovering its sight is no proof that serious organic mischief is not present.

IV.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Doyne, Robert W.—Treatment of atrophic retinae with retinal extract. *British Medical Journal*, July 25, 1903.

Doyne has obtained encouraging results in cases of retinitis pigmentosa, retinal degeneration in choroiditis and high myopia, and tobacco amblyopia, by giving internally six to nine fresh retinae (obtained from freshly-slaughtered animals) to the patients daily. As there is, under some circumstances, considerable difficulty in obtaining fresh enough retinae, Burroughs, Wellcome & Co. have prepared, under the name "Optocine" a potent extract, which appears to have all the virtues of fresh retinae. One drachm of this interesting and novel product is administered two or three times a day.

Alter, Francis W.—Implantation of a ball of solid paraffin to secure a prominent stump after enucleation of the eye. *Ophthalmic Record*, March, 1903.

In a brief communication upon this subject Alter states that "instead of glass, balls of silver, gold, plated silver, bone, and filigree have been used; fenestrated aluminum spheres have also been pressed into service, the latter two as well as the sponge graft having been used with the thought that such material (sponge or filigree) or fenestration would catch and encourage the permeation of granulation tissue and thus aid in the permanent enlargement of the stump and the definite retention of the spheres implanted. None of these devices," he continues, "having been entirely successful, it occurred to me to use a ball of solid paraffin, basing my conclusions on the perfect innocuousness of paraffin when buried in tissue as evidenced in several nasal deformities which had been corrected by me in the past six months, and accordingly I operated on a total staphylomatous eye by enucleation. After removal of the globe in the ordinary way a ball of paraffin, about one-third the size of the eye, was implanted in the empty Tenon's capsule; closure of the wound was made by catching the deep tissues with catgut and suturing the conjunctiva with silk, using the well-known purse-string method. The paraffin was at first sterilized and then put on ice and allowed to cool in the bottle; when ready to use, put in a towel, and by tapping with a hammer released from the bottle in a piece large enough to carve out several sizes, using the one which

seemed the most suitable for the case in hand. No reaction of any note occurred. Cold applications were kept on at stated periods for several days in order to anticipate any undue reaction. The stump healed kindly and is ideal in size, and the cosmetic effect is all that is desired."

The author tells us that solid paraffin possesses the following advantages: first, it is non-irritating; second, it can be effectually sterilized; third, it is non-absorbable; fourth, while it is hard, it does not possess the degree of rigidity which glass or other similar substances do, and hence it ultimately moulds itself to a nicety with the empty Tenon's capsule; and, fifth, what is most important, extrusion is less apt to occur.

C. W. OLIVER.

Dunn, Percy.—**Test-types for the Pocket.** *Lancet*, May 9, 1903, and *British Medical Journal*, May 9, 1903.

Dunn's pocket types fold into small compass, and are made of several cards united by strips of linen. Snellen's distance types are printed on one side of the cards, and on the other reading types. They can be obtained from Mr. Davidson, 140, Great Portland Street, London.

Abrahamsz Swarts.—**A little-known Operation for Entropion.** (Een weinig bekende methode, etc.) *Geneeskundig Tijdschrift voor Ned. Indie*, 1903, I.

Abrahamsz has seen this operation performed by Thier in Aix-la-Chapelle, and has obtained very good results from it. He describes the method as follows. First, an incision is made along the border of the eyelid, just behind the lashes, 3 to 4 millimeters deep. Through the edges of the somewhat gaping wound three or four sutures are passed, that would close the wound again if they were tied at once. These sutures are loosely knotted over a pair of forceps, the loops being thus kept open. Then a small strip is cut out from the delicate skin just below the eyebrow. This piece of skin is taken with the forceps lying in the sutures, and drawn through the loops. After having been well adjusted in the slit, it is fixed by tying the sutures.

Since in the foregoing operation there is no loss of tissue, it may be very useful in cases of considerable atrophy of the eyelid.

G. F. ROCHAT.

Prins, Visser, J.—The lasting effect of Operations for Squint. (Thet blijvend resultaat der Scheelzien-operatie.) *Thesis for the Degree of M.D. Amsterdam, 1903.*

Prins has examined 68 patients operated upon for squint, in Prof. Straub's clinic in Amsterdam. The time elapsed since the operation varied from 9 months to 35 years.

A detailed description is given of every case before and after the operation, and a discussion of the results from different points of view. All the tenotomies were performed in the same way, without an attempt to graduate the effect. Yet in all the cases this was just as much as desired; 10° if a deviation of 10° had to be corrected, or 40° if the squint amounted to 40° . This proves that the "dosage," so to speak, of the effect is not the operator's doing, but the patient's. This can only be explained by assuming that there is a tendency towards binocular function in every patient's eyes, even in those cases in which a real binocular vision cannot be proved.

G. F. ROCHAT.

An Ophthalmic Dressing-Tray. *Lancet*, May 23, 1903.

Landstrom, John.—May's operation for Symblepharon. (Om operation af Symblefaron Enligt May.) *Hygiea*, May, 1903.

Of all the operations that have been tried at the Serafimer-lazaret for symblepharon, the one introduced by May has proved itself to be the most effectual. The operation is performed in the following way: by means of deep incisions the eyelids are separated from the eyeball. Thiersch skin grafts are then placed in such a position on an artificial eye that the epithelial surface looks towards the prothesis. The artificial eye thus covered with the skin grafts is introduced between the lids, which are then sewn together over the support. Landstrom relates the details of four cases treated in the above way. Although the cases were of an aggravated kind, yet the results were good in each instance, but it should be noted that in two of the cases the operation had to be repeated a second time. One case was watched for fifteen months after the performance of the operation, and the other for a shorter period. The author attaches great importance to the following details.—The conjunctival fornices must be made as deep as possible by the liberating incisions. The artificial eye used to support the skin grafts should be of such a size that it may be inserted without difficulty, and it should be kept in place for at least a fortnight. Shrinking may occur in the first two months, but after that time the definite prothesis may be applied.

J. WIDMARK.

Abadie, Ch.—A new operation for Symblepharon. (Nouveau procédé pour le Symblépharon.) *Société française d'Ophthalmologie*, mai, 1903.

Abadie operates on symblepharon in the following way. By incision, he makes a new conjunctival *cul-de-sac* of such dimensions that it will easily take an artificial eye. He then takes a skin-graft from the surface of the forearm according to the well-known method of Thiersch. The graft thus obtained is placed upon an artificial eye, or upon a suitably shaped glass shell, in such a way that its raw surface lies outside. The prothesis covered with skin is then pushed into the artificial *cul-de-sac*, and is kept in place by means of two sutures passed through the eyelids and tied. After six days, the sutures are removed, the lids opened, and the artificial eye taken out. It will then be found that the graft has adhered by its raw surface to the revived soft parts in the neighbourhood, while its epithelial surface has formed a *cul-de-sac*, which shows no tendency to become obliterated. Abadie points out that in order to get the best results the following precautions must be taken: (1) strict antisepsis must be adopted; (2) all traces of the antiseptic used must be removed from the recently-made wound by irrigation with physiological salt solution; and (3) the skin-graft must be kept at a temperature of 35° in saline solution.

ARMAND DARIER.

Basso (Genoa).—A new and rapid method of treating Myopia surgically. (Un metodo rapido per la cura chirurgica miopia eccessiva.) *Annali di Ottalmologia*, Vol. XXXII., fasc. 5-6, 1903.

Basso's plan is to remove a large part (estimated at two-thirds) of the crystalline lens through an upward section of the cornea, after having first performed a vigorous dissection by the aid of Knapp's knife-needle. As both operations are performed at the one sitting, the aqueous humour must not be allowed to escape during the "needling," or it will be difficult or impossible to make the corneal section. Any remaining fragments of the crystalline lens are removed by means of the curette. The reaction following this operation is stated to be trivial. In the most favourable cases, the pupil is said to be clear in a fortnight. Basso's method, which resembles in some respects those of Vacher and of Sattler, has given the author excellent results in eight cases.

A. ANTONELLI.

Schnaudigel, Otto.—The Hydrochloride of Adrenaline. *La Clinique Ophthalmologique*, 1903.

Schnaudigel, of Frankfort-on-the-Main, insists upon the utility of adrenaline in the treatment of phlyctenular conjunctivitis, spring catarrh, and affections of the lacrymal passages. In operative work, also, he would not willingly dispense with the agent. Nevertheless, adrenaline is not without drawbacks. For example, in some cases of catarrhal conjunctivitis it may aggravate the subjective symptoms. Mengelberg, again, has recently drawn attention to the fact that adrenaline used at the same time as atropine (or other alkaloid) may readily give rise to symptoms of intoxication as a consequence of the ischæmia and widening of the lacrymal passages it produces. Schnaudigel has himself observed, after using adrenaline in anæmic or feeble persons, violent headaches, vertigo, ciliary neuralgia, and general malaise set up by ischæmia of the iris and ciliary body. He does not therefore care to apply the remedy to very sensitive patients.

ARMAND DARIER.

Maynard, Major F. P.—An Analysis of One Thousand Consecutive Cataract Extractions. *Indian Medical Gazette*, February and March, 1903.

Major Maynard has been at pains to record his results accurately and to investigate the sources of failure. His report therefore deserves attention.

It is surprising that his average results were as good in the 209 eyes where there was conjunctival mucus at the time of operation, as in the eyes quite free from discharge. At one time he used 1 in 2,000 sublimate lotion for washing out the conjunctiva, but later much weaker lotions. Unfortunately any comparison of the results of the two periods is unprofitable, because it was during the second period only that the instruments used were properly sterilised. The proportion of bad results, 3·57 %, even with sterilised instruments, leaves something to be desired. Major Maynard limits the "simple operation" without iridectomy, to lenses with soft or fluid cortex. Those with "solid or glutinous" cortex "cause bruising of the iris and require a larger incision for successful extraction." It might, perhaps, have been mentioned that the lenses with soft cortex sometimes enforce an iridectomy through shallowness of the anterior chamber, and consequent injury to the iris by the knife in making the section. Following his simple extractions, prolapse of iris was more than three times as frequent as after his "combined extractions." Since it is impossible to immo-

bilize the average Indian hospital patient after operation, the cases for simple extraction would appear to require careful selection in India. Yet in Madras, under Pope and even before his time, the routine practice has been to operate without iridectomy. Few surgeons share Maynard's belief that atropine used after combined extraction tends to prevent prolapse of iris, nor will they agree with the explanation put forward.

It is stated that the tension was increased in 41 cases, and diminished in 90 cases. Without corroborative statements with regard to the usual signs of glaucoma in the former cases, and the signs of past irido-cyclitis in the latter, one hesitates to accept this estimate as it stands, especially with respect to the subnormal tensions. There are in India two fairly large groups of cases in which high tension and cataract are associated—(1) recent congestive glaucomas together with, and partly due to, the swollen cataracts with soft cortex, that ordinarily lead to shallowing of the anterior chamber, and (2) advanced chronic glaucomas with secondary cataract, generally unripe until the glaucoma is too far advanced for successful treatment.

The author states that he combined "a conjunctival flap with a purely corneal incision." Most operators will hold that to be impossible. In the capsulotomy "the capsule was opened all round just inside the (dilated) pupillary margin, so that most of the anterior capsule came away with the lens." Careful examination at the time of the patient's discharge from hospital will show that openings other than a simple straight cut or tear by no means generally correspond with the operator's intentions.

Major Maynard is evidently not in favour of what might almost be termed nowadays "the Punjab operation"—i.e., extraction within the capsule. In nearly half of the 68 cases in which toughness of the capsule forced him to remove it there was escape of vitreous.

Needling for after-cataract (33 times) was generally performed about ten days after extraction. This very early interference appears perfectly satisfactory in eyes that have become practically free from injection.

H. HERBERT.

Abadie, Charles.—The therapeutic indications of intravenous injections of cyanide of mercury. (Indications thérapeutiques des injections intra-veineuses de cyanure de mercure.) *La Clinique Ophthalmologique*, juillet, 1903.

Nobody will nowadays dispute the possibility of curing

by injections of mercurial salts (soluble or insoluble) manifestations of syphilis that are quite rebellious to the action of mercurials administered by the mouth or applied as inunctions. The evidence upon this point is overwhelming. It must not, however, be thought that all other means of treating syphilis can be replaced by mercurial injections. Intravenous injections of cyanide of mercury act most favourably upon the late lesions of syphilis, which evolve gradually, and which are especially apt to attack the eye or the nervous system. Under such circumstances, Abadie believes that they are capable of curing manifestations repugnant to all other methods of specific treatment. The injections, in such cases, may have to be continued for long periods of time. Broadly speaking, the great superiority of intravenous injections is apparent when dealing with late manifestations, of very slow evolution, without inflammatory reaction, which strike in a trice, as it were, not the iris or the choroid, but the nervous structures of the retina or the optic nerve. It is also obvious in (1) chronic cerebral syphilis, of late origin, and (2) senile syphilis, *i.e.*, in syphilis contracted at an advanced age.

A. DARIER.

Burnham, G. Herbert.—Remarks upon certain Diseased Conditions of the Cornea. *Ophthalmic Review*, March, 1903.

Burnham considers conical cornea is due to a certain impaired condition of the nervous system, and acting on this supposition he treats such patients with hypodermic injections of pilocarpine combined with iodide of potassium and mercury internally. He describes a case of long standing where sight improved from $\frac{9}{200}$ to $\frac{20}{100}$. Cases of corneal nebulae, specific and non-specific, he has seen remarkably benefited by this treatment. "This treatment stimulates the nerve centres to a remarkable degree, and through them the ordinary physiological processes of the affected part are aroused to an activity far in excess of the normal, and thus the diseased condition is acted upon and removed."

Jackson, Edward.—Operation on the Tendon of the Superior Rectus for Paresis of the Superior Oblique.—*Ophthalmic Review*, March, 1903.

The action of these two muscles is discussed in the paper, and the conclusion arrived at is that it is possible, by altering the attachment of the superior rectus, and displacing the insertion backwards and outwards, to overcome the pain and discomfort of paresis of the superior oblique. The operation is described, and illustrative cases given.

Maxwell, Patrick W.—An operation to enlarge a contracted socket, so that it may hold a glass eye. *Ophthalmic Review*, May, 1903.

A modification of the operation for contracted socket described by the author in Vol. xii. of the *Ophthalmic Review* is here given. It consists of enlarging the floor of the conjunctival sac by means of inserting a skin flap which is cut from the lower lid through an incision in the floor of the orbit. The flap, not being completely separated from its deep attachment, ought to remain alive. Gratifying results have followed this procedure in four cases.

Rolston, John R.—An improved tarsal cyst forceps. *Lancet*, July 25, 1903.

Rolston's eyelid clamp for use during the removal of a tarsal cyst does not differ materially from the instrument introduced several years ago by the late John Griffith.

Elliot, Captain R. H.—An Analysis of a further series of 250 consecutive Operations for Primary Cataract performed in the Government Ophthalmic Hospital, Madras. *Lancet*, May 2, 1903.

V.—MISCELLANEOUS.

Petella (Naples).—On sympathetic ophthalmia and the principles establishing its origin and nature from a medico-legal point of view. (Sull' ottalmia simpatica e sui criterii che ne stabiliscono l'origine e la natura, per gli effetti medico-legali.) *Annali di Ottalmologia*, Vol. XXXII, fasc. 5-6, 1903.

The simulation of sympathetic ophthalmia is not unlikely amongst workmen who have been injured in the course of their occupation. It is therefore necessary to establish certain principles, which Petella lays down as follows :—(1) relapsing inflammation in an atrophic eye or in an orbit deprived of its eye renders the advent of sympathetic ophthalmia possible, even after the lapse of several years; (2) the favourable results obtained by preventive enucleation or exenteration tell in favour of the sympathetic process being simply of an irritative rather than of a truly inflammatory nature; (3) the nature of the initial lesion (an infective wound) determines usually a secondary irido-cyclitis of the other eye, and exceptionally only a toxic papillo-retinitis; all the other so-called sympathetic affections should be looked upon askance; (4) when four weeks have elapsed after preventive enuclea-

tion, without the appearance of sympathetic ophthalmia, the latter can only manifest itself after an obvious relapse in the atrophic eye or in the orbit belonging to the eye that has been enucleated.

A. ANTONELLI.

Mayou, M. S.—A new Illuminant for the fundus oculi.
Lancet, March 28, 1903.

Mayou has examined a number of healthy and diseased fundi by means of the mercury vapour lamp, the light from which is deficient in red rays, although rich in blue and violet rays. The light of this lamp is produced by allowing a direct current of electricity to flow through a vacuum containing mercury from a platinum to an iron electrode, the resistance in the tube having first been broken down by a spark of high tension. On examining the eye by this light, the fundus appears pale green, and the retinal arteries and veins purple. The choroidal vessels are of a deeper purple. The retina can be seen glistening over the whole fundus. The optic disc has a white centre and green edges. Mayou suggests that since the perspective of the retina, choroid, and sclera is so clear, this method of examination may be useful in the differential diagnosis of retinal and choroidal disease.

Folker, Herbert H.—Medical Ophthalmology. Staffordshire Branch of the British Medical Association, November 27, 1902. *British Medical Journal*, January 31, 1903. P. 256.

Dijckmeester, H.—A case of pigmentation of the optic disc.
Ned. Tijdschrift voor Geneeskunde, No. 2, 1903.

This rare condition was observed by Dijckmeester in a woman seen in Professor Koster's clinic in Leyden. The lower-lateral part of the optic disc showed a dark-blue spot, lying somewhat below the surface-level of the disc. A vein, from a peripheral part of the fundus, entered this patch and disappeared close to its border without having any visible communication with the central vein of the retina. The eye was normal in other respects. Congenital pigmentation of the papilla is rarely observed. It may be due to a persistence of the pigment found by Fick to be normally present in the optic nerves of embryos of the sixth and seventh weeks.

G. F. ROCHAT.

Symonds, H.—Association of dislocated lens and loss of hair.
British Medical Journal, February 7, 1903.

Partridge, A. A. H.—Unusual Joint Changes in a case of Hereditary Syphilis. SOCIETY FOR THE STUDY OF DISEASE IN CHILDREN, May 15, 1903.

Partridge showed a boy, aged 10½ years, the subject of interstitial keratitis due to hereditary syphilis, who simultaneously developed an affection of the second phalangeal joints of both hands. The feet showed no corresponding changes. The appearance of the hands closely resembled that of osteo-arthritis. An interesting point about the case was that the left hand became affected after the left eye had been attacked by interstitial keratitis.

The general feeling of the meeting seemed to be that this was an unusual manifestation of hereditary syphilis, comparable with the affection of the knee-joints often seen in association with interstitial keratitis.

Pearson, Allan C.—Chicken-pox eruption on the conjunctiva. *British Medical Journal*, June 27th, 1903.

In a child, aged 2½ years, Pearson observed a pock on the ocular conjunctiva near the outer canthus of one eye. The eruption was also present on the mucous membrane of the mouth.

Ducros, A.—Mercurial treatment in syphilitic myelitis. (Traitement mercuriel au cours des myélites syphilitiques.) *Thèse de Paris*, mai, 1903.

Ducros believes that mercurial treatment is necessary in every nervous manifestation presumably of syphilitic origin. It must be applied, however, in ample doses and by suitable means. In Ducros's opinion, intramuscular or subcutaneous injections are the *méthode de choix*. Under these circumstances, the exact salt of mercury employed, whether soluble or insoluble, seems to matter little, provided one knows how to push it to the limits of tolerance. It must be remembered that every patient has his individual reaction towards mercurial preparations. Perhaps in the future, when in a given case all the classical methods have failed, we shall avail ourselves of the sub-arachnoidal method of introducing the mercurial salts (Sicard).

ARMAND DARIER.

Dodd, H. Work & McMullen, W. Halliburton.—A case of congenital deformity of the skull, associated with ocular defects. *Lancet*, June 13, 1903.

Dodd and McMullen describe at some length, and illustrate by two photographs, the case of a child, aged seven years,

who presented an oxycephalic (steeple-shaped) skull. This was associated with marked proptosis, post-neuritic atrophy of the optic discs, defective hearing, congenital dislocation of the radius, hallux varus, genu valgum, and several minor deformities of various parts of the body. The authors discuss the pathology of cases where cranial deformities are associated with ocular defects, but conclude that the ultimate cause of these conditions is at present not known. References are given to several analogous cases.

Snell, Simeon.—**A case of Acromegaly.** *British Medical Journal*, July 18, 1903.

Snell reports at some length a typical case of acromegaly in a woman, aged 38 years. There was defective sight, and temporal hemianopsia, with marked contraction in the remaining half of the visual field, especially in the left eye. The main interest of the case lay in the fact that after about five months' treatment with 5 grain doses of thyroid extract, the sight showed a very remarkable improvement, while the left field of vision had become much larger.

REVIEWS.

Squint: Its Causes, Pathology and Treatment. By CLAUD WORTH, F.R.C.S. London: John Bale, Sons, & Danielsson, Ltd., 1903. 229 Pages and 33 Illustrations. Price 6s. net.

In the midst of so large a number of books on eye diseases one hardly expects to find anything remarkably new in the fresh volumes that so constantly appear, but a recent book on "Squint: its Causes, Pathology, and Treatment," by Claud Worth, is original and convincing, and will repay reading and studying. It is written as the result of many years' experience of the muscular anomalies of the eye, and from the notes of 2,337 cases of squint and heterophoria, of which 1,729 suffered from convergent squint.

The author is altogether opposed to the commonly held theory that squinting eyes are congenitally amblyopic. He finds that if he gets the cases early enough, he can, by methods he describes, in monolateral squints, prevent the squinting eye from becoming amblyopic, but that the longer this suppression of the image has been allowed to go on, the less chance is there of the defective eye regaining its sight. If the case is left till the child is upwards of six years' old, the chances

of obtaining binocular vision are remote. "The essential cause of squint is a defect of the fusion faculty." No child is ever too young to wear glasses. A point most strongly insisted upon is that atropine should be used to the fixing eye *only*, after, of course, the refraction has been worked out under that mydriatic. This is for the purpose of suspending the accommodation in the good eye, and thus making the child use the defective one in near vision, although care must, of course, be taken not to keep it up for too long, as this may cause what was the better eye to become amblyopic. The "amblyoscope" is an ingenious instrument that the author has devised in order to teach young squinting children the fusion of objects seen with the two eyes. It is a pity, by the way, that figure 30 (page 208) is printed upside down.

In a short review it is impossible to do the book full justice or to mention one-half the original ideas it contains. It is well written, contains nothing but the soundest common-sense, and is a pleasing contrast to many books in which the most diverse diseases are ascribed to want of muscular balance. The importance of the subject is by no means exaggerated. We can thoroughly recommend Mr. Worth's book as practical and trustworthy. There are few who will not derive instruction from its pages.

The Refraction of the Eye and the Anomalies of the Ocular Muscles. By KENNETH CAMPBELL, M.B.Edin., F.R.C.S. Eng. 210 pages and 107 illustrations. London: Baillière Tindall & Cox, 1903. Price 5s. net.

Another book on Refraction and Anomalies of the Ocular Muscles has been added to the rather formidable number that already exist, namely, one by Mr. Kenneth Campbell. The scope of the work is described by its title. It is divided into thirteen chapters which deal with the subject in a systematic and clear manner. The author, quoting Professor Tait's words, says that "true science is itself simple and should be explained in as simple and definite language as possible," and in following out this maxim, Mr. Campbell has managed to explain matters without the aid of trigonometrical formulæ, which are an obstacle to many whose mathematics are not equal to the demand made upon them, and, anyhow, they are but little use practically.

When treating of asthenopia and the muscular anomalies of the eye the author is clear and concise, and his descriptions are far easier to understand than the complicated ones given by some writers. The final chapter on the eyesight regulations for the admission of candidates to the public services is most useful, and we could wish that all eye-books of reference

included these, for it is next door to impossible to remember them unless constantly engaged in testing candidates.

As a special book on this interesting subject, we can recommend Mr. Campbell's *Refraction* to all who require more than can be found in the ordinary text-books. It is a most attractive-looking little volume.

Elementary Ophthalmic Optics. By J. HERBERT PARSONS, B.S., B.Sc., F.R.C.S. London: J. & A. Churchill, 1901. Price 6s. 6d.

This is a book consisting of 162 pages, dealing with ophthalmic optics, and in it the author has endeavoured to supply the student with all that is necessary for an intelligent appreciation of the subject. It consists of nine chapters dealing with Light, Reflection, Refraction, the Dioptic System of the Eyes, Ametropia, the Ophthalmoscope, and Retinoscopy. Care has been taken not to bring in more mathematics than is necessary, although, in spite of this, the student must be well-acquainted with trigonometry and algebra before he can follow the formulæ that are met with throughout the book. The more important conclusions have been printed in italics, so that the results can be seen by those not capable of following the working of the problems. Optics being essentially based upon mathematics, it is impossible to understand the former without knowing the latter, but Mr. Parsons has brought out his points clearly and concisely, and anyone studying the subject from an ophthalmic standpoint will find the book very useful.

Eye symptoms as aids to Diagnosis.—By EDWARD MAGENNIS, M.D., D.P.H. Bristol: John Wright & Co.; London: Simpkin, Marshall, Hamilton, Kent & Co. 1903. P. 108. Price 2s.

This booklet has been compiled, so we gather from Dr. Magennis's preface, to aid general practitioners, "and especially that hard-worked, ill-requited body—the Irish Poor Law medical officers," to identify general diseases from any eye symptoms that may happen to be present in a given case. Considering its modest dimensions, it includes quite a large number of mis-statements, of which a few only need be quoted. Amongst the chief remedies for iritis (given on page 23) the author includes lead. On the same page we are told that sarcoma, tubercle, and syphilitic tumours of the iris are "frequently seen." On page 24 the syphilitic tumour is cryptically stated to be "usually situate at the pupillary and ciliary margins of the iris." Optic

atrophy is said to be "quite common in diabetes mellitus" (p. 65). On page 66 the term "Gunn's dots" is applied to the glistening spots present in cases of albuminuric retinitis. We feel confident that Mr. Gunn would, moreover, repudiate the statement attributed to him on page 66 of the book, as follows:—"Gunn says that in the retinal veins (*sic*) are found white streaks which he calls silver wire." Finally, Dr. Magennis gives it as his opinion that tuberculous growths of the choroid "are of little aid in making a diagnosis" (p. 68). We should ourselves have thought that the exact contrary was the case.

NOTES AND ECHOES.

ANOTHER Meeting of the British Medical Association has come and gone. In spite of all its beauties of sea and shore, Swansea has a depressing kind of influence upon the average medical man. Perhaps a foreboding of that fact prevented the Meeting from being so large as we have been accustomed to in late years. So far as the Ophthalmological Section was concerned, however, attendance kept well above the average. There were no features of sensational interest in the discussions. Perhaps the two most striking things were the prodigious number of cataract operations performed in India by Major H. Smith, who extracts the lens in the capsule, and the account given by Mr. R. W. Doyne of the treatment of atrophic retinae by the ingestion of the retinae of freshly-slaughtered animals.

* * * *

THE optician question grows apace. The Worshipful Company of Spectacle Makers have notified the Royal College of Surgeons of England that the proposal to include sight-testing in their examination is now under the consideration of a Committee. Their investigation has been prompted by two memorials, signed by 220 opticians, praying the Company to include that subject within their purview. The Surgeons have handed this communication to the President and two Vice-Presidents for consideration and report in October next.

* * * *

MEANWHILE, the following advertisement, culled from the columns of the *St. Louis Globe Democrat*, is not without its illuminating interest: "The difference"—it is headed—"between an oculist and an optician. The optician tests your eyes free and ruins them for you. The oculist is a graduate of medicine who has to take a special course and several post-graduate courses to become one. If you have trouble with

your eyes, go to the oculist and pay for the examination, then bring your prescription to me to be filled. I will save you money. I am the best frame fitter in St. Louis. . . . Optician and expert frame fitter."

* * * *

THE mixture of seeming modesty and of brazen impudence in that notice is worthy of the most advanced Yankee advertisement. On this side of the Atlantic the amateur medical man is more or less touched with the shamefacedness of his race. At least, so we gather from a letter published in the *Lancet* of July 29th last. The writer was an optician and jeweller who sent a patient to a medical man for examination. He found the eyes, so he stated in his epistle, in a "very bad way. Vision R \times L $\frac{6}{16}$ vessels tortuous, retinal oedema," and so on. Urine showed a large quantity of epithelium, which this most learned optician regretfully admits he did not filter off. He found tube casts with "raggy" edges; and "baccilli" (*sic*) of the putrefactive type. Finally, he analysed some medicine that had been prescribed by a medical man, and found it to be a simple "solution of K1." He thereupon advised the mother to give the patient Easton's Syrup Pill "which contains $\frac{1}{8}$ gr. of strychnia." "Tumour of the brain," said this admirable Crichton in a Parthian sentence, "gives the L eye characteristics." He was right in that observation, as the girl suffered from double optic neuritis and cerebral tumour. Altogether a most wonderful specimen of wisdom of the erudite, asinine amateur. He displays knowledge that many a medical practitioner might envy—and all from books!

* * * *

THE lay press has worked up a nine days' wonder about the X-rays, which have taken so powerful a hold upon the imagination of the public. Mr. Edison, it declares, has been rendered "half-blind" by exposure to the rays in the course of certain prolonged experiments. For the present it will be well to accept these rumours with a certain amount of reserve. It is a well-known fact that conjunctivitis is set up by exposure to the focus-tube in the case of susceptible persons. So far as we know, however, there has been no damage to sight. One English newspaper has gone so far as to talk of "overdoses of X-rays," and of "X-ray poisoning." That is an evident abuse of terms. There is nothing to show that the X-rays themselves are concerned in producing traumatic results. Indeed the balance of evidence points the other way, and it is better to adopt the non-committal name of "focus-tube dermatitis" suggested some years ago, for those forms

of inflammatory mischief set up by exposure to a "live" focus-tube.

* * * *

UNDER the title of "the barbaric earring" some correspondence is going on in a London newspaper. One correspondent says that the really "barbaric" earring is that which does not perforate the lobe of the ear but is kept in position by the pinch of a screw. Modern cultured opinion inclines to the view that all forms of earring are barbarous. The belief that piercing the ears is both preventive and curative of "bad eyes" has a strong hold upon the mind of the poor of London. The origin of this belief is interesting. The fallacy is of the *post hoc, ergo propter hoc* kind. The common eye affection from which poor children suffer is of the phlyctenular type, which has a natural tendency to disappear about the age of puberty, the very time at which budding female beauty in nine cases out of ten elects to have her ears pierced.

* * * *

A FIRST Annual Report has been issued by Dr. James Kerr, the recently-appointed Medical Officer of the School Board for London. It appears that the vision of 20,000 children has been tested, and of these the sight was "good" in 15,338; "fair" in 3,878; and "bad" in 1,527. That is not an altogether disquieting result for a generation like our own—that vexes its soul exceedingly upon its degeneration. The proportion of about 10% of children having "bad" vision remains fairly constant all through school life. The important observation is made that theoretical correction of visual errors is in many cases unnecessary in children. The youthful ophthalmic surgeon will do well to make a careful note of that fact. In the case of poor parents the burden of procuring spectacles costing 6s. or 7s. a pair is likely to put a severe strain upon their loyalty to the public educational authority which had indirectly demanded the outlay. The Board gives a card to the friends of each child needing further medical advice. This card warns parents against glasses prescribed by sight-testing opticians, chemists, and other unqualified persons. At the same time it contains a prescription for inflammatory eyes, consisting of 3 grains of yellow oxide of mercury to the half-ounce of lanoline and vaseline. This last-mentioned step appears to be extremely unwise from various points of view.

* * * *

THE forthcoming International Congress of Ophthalmology at Lucerne promises to be a brilliant and attractive function. It has been fixed in 1904 for the 19th, 20th, and 21st of September, presumably in order to avoid the rush of the tourist

season in Switzerland. This 10th Congress is to be presided over by Dr. Deucher, President of the Swiss Confederation. All intending contributors of papers should send their manuscript to Professor Mellinger, of Bâle, before May 1, 1904. Communications must not exceed in length five pages of the usual printed report. The one official discussion will deal with the important practical point of indemnity as regards the value of a lost or injured eye. The subscription, £1, is payable to Professor Mellinger.

* * *

We note with approbation that the communications received will be "immediately printed and will be sent to each member at least two weeks before the time appointed for the opening of the Congress." Other Congresses please copy!

ANSWERS TO CORRESPONDENTS.

DR. G. F. ROCHAT (Utrecht).—Abstracts received.

MR. W. ERNEST THOMSON.—We have always a place for brief and practical memoranda.

DR. A. BIRCH-HIRSCHFELD (Leipsig).—A private communication has been posted to you.

DR. J. WILSON BLACK (Inverness).—Many thanks for your kindly appreciation.

DR. CHARLES A. OLIVER (Philadelphia).—Your article will appear in an early number of the *Ophthalmoscope*.

MR. E. KENNETH CAMPBELL is thanked for his letter.

OPTICIAN.—Nothing more can be usefully said on either side of the question.

DR. ALOIN A. HUBBELL (Buffalo).—Your useful suggestion has already been adopted.

MR. A. FERGUSON MACCALLAN (Cairo).—Your name has been duly entered on the list of subscribers.

DR. LEONARD KIDD.—Your suggestion is now under consideration.

DR. A. ANTONELLI (Paris).—The error has been rectified in the present number.

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London: **J. and A. Churchill, 7, Great Marlborough Street, W.**

THE OPHTHALMOSCOPE.

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

VOL. I.—No. 4.]

OCTOBER, 1903.

[ONE SHILLING.

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ORIGINAL COMMUNICATIONS.

SOME OBSERVATIONS UPON THE PATHO- GENESIS OF RHEUMATIC IRITIS.

BY F. J. POYNTON, M.D., F.R.C.P.LOND.

ASSISTANT PHYSICIAN TO UNIVERSITY COLLEGE HOSPITAL AND THE HOSPITAL
FOR SICK CHILDREN, GREAT ORMOND STREET, LONDON.

RHEUMATIC iridocyclitis is a condition which is of considerable interest to the general physician and pathologist, and of first importance to the ophthalmic surgeon, yet as to its pathogenesis and frequency of occurrence, there is some uncertainty. For these reasons I venture to write this short article, for I have, while working with my colleague, Dr. A. Paine, met with some facts which may, I think, throw light upon them.

We observed these facts when studying the results of intravenous inoculations into rabbits of a diplococcus which we had isolated from cases of undoubted rheumatic fever, and we brought them before the Ophthalmological Society of Great Britain in April, 1903.

The gist of the investigation briefly summarised is this:

In rheumatic fever* we have isolated from the cardiac valves, pericardial exudation, and rheumatic nodule after death, and from the blood, tonsils, synovial fluid, and urine during life a minute diplococcus. This can be cultivated outside the body and can be found in the local lesions of the disease, [as, for example, in the nodule or cardiac valve. Further, it will produce identical lesions in rabbits, and the micro-organism can be demonstrated in those lesions. Lastly, in rare instances—two in our experience—iridocyclitis of one eye has resulted in rabbits as a result of the intravenous injection of the organism into the auricular vein.

On both occasions the animals died of heart disease and we found iridocyclitis with plastic exudation, and in the anterior chamber a cloudy fluid which contained a few leucocytes and which teemed with the diplococcus. A culture from this fluid injected into another rabbit produced a chronic arthritis, from which the animal eventually recovered. This micro-organism we believe to be a cause of rheumatic fever, and thus it follows that *we look upon the iridocyclitis as a true experimental rheumatic iridocyclitis.*

Rheumatic fever viewed in this way at once finds its position among diseases. It becomes one of that group of micrococcal infections, in which we place the pneumococcal, the gonococcal, the staphylococcal, and the streptococcal diseases. All are characterised by numerous local focal lesions, but each has a certain stamp of its own. Clinicians have long claimed a position of this kind for rheumatic fever, but they are not all satisfied that rheumatic fever owns only one bacterial cause. However this may be, judging from these experimental results, we should expect in man, as in rabbits, a true rheumatic iritis. From the rarity of its occurrence in the animals, overwhelmed as they were by a sudden intravenous injection, we should expect it to be rarer still in man, who has a greater resistance, and who is seldom or never overwhelmed by the infective agent as was the case with the animals.

This is the inference that may be justly drawn from the investigation, but to be of practical utility it must be tested by clinical experience. In the first place, I believe I am right when I state that iritis occurring in direct relationship to rheumatic fever, although very rare, is not unknown. In other words, it is an admitted fact, and Dr. Paine and myself quoted in the paper alluded to a very conclusive example described by Mr. F. C. Forster, of Lowestoft, in the *British*

*The ætiology of rheumatic fever, *Lancet*, Sept. 22nd and 29th, 1900.

Medical Journal for March 7th, 1903. Then, again, there are a considerable number of cases of iritis in which it is true there is no absolutely direct relationship to be traced, but in which the evidence that the patients have formerly suffered from rheumatic fever is convincing. Thus, in the article upon iridocyclitis by W. A. Brailey and S. Stephenson, in Norris and Oliver's *System of Diseases of the Eye*, Vol. III., it is stated: "There can be no doubt that rheumatism (acute or chronic articular) is capable of predisposing to inflammation both of the iris and of the ciliary body."

The association in these cases is sometimes alluded to thus: the iritis is said to alternate with the arthritis. It is, I think, important to settle what is implied by the use of this word "alternate." If it implies that there is some mysterious association—a see-saw—between the two lesions, then I think its use is open to dispute, but if it implies that the rheumatic infection may show itself sometimes as an arthritis, sometimes as a chorea, or a carditis, or again as an iritis, then I should accept that interpretation.

Thirdly, as a physician, one recognises clearly that chorea may be for years the only sign of rheumatic fever, even perhaps remain the only sign, and the disease be vanquished. It has taken a long while to realise the truth of this, but now it is recognised we may justly apply the same reasoning, with caution, to iritis, and suppose that this also may be a solitary manifestation.

Lastly, that the other infections allied to rheumatism may produce iritis is also known. The gonococcal, the pneumococcal—which, as in other pneumococcal lesions apart from the lung, is liable to suppurate and become a suppurative panophthalmitis—and the streptococcal infections. All may cause iridocyclitis, and the micro-organisms be demonstrated in the eye. The clinical evidence of true rheumatic iritis appears then convincing.

There is, however, because it is usually recovered from, difficulty in the study of rheumatic iritis. Secondary effects from adhesions may follow but the active disease subsides, and if it should be a part of a general rheumatic fever that, too, is usually recovered from. So it comes about that bacteriological investigations difficult enough to make at the best, may be repeatedly negative. From a study of the pathology of rheumatism I should expect them to be repeatedly negative in rheumatic iritis just as is the case with rheumatic arthritis. The explanation is that, in the early stage the diplococcus remains in the tissues and is not in great numbers in the exudations, while when the disease has subsided it is destroyed by the living cells, though possibly the poisons linger as

Åhlstrom's researches seem to show. But although the results may be so often negative, I believe if it were justifiable to investigate every case that this micrococcus would be found in a certain percentage, and would be found in those cases of considerable local severity which give rise to plastic exudation resembling that found in severe pericarditis.

As regards the frequency of rheumatic iritis, I believe I am right in stating that many maintain it is rare, possibly very rare, and think that the gonococcal infection is a far more frequent cause of iritis than is rheumatic fever. Such was the impression given me at the discussion upon our paper, and having no expert acquaintance with ophthalmic surgery, I am not in the position to express any opinion of my own. It may be worth while to point out that all evidence shows that the rheumatic infection may linger in the system just as does the gonococcal, and that both may be expected to cause iritis, this may serve as a warning against the too ready acceptance of the gonococcal infection as the explanation of iritis *unless the gonococcus is actually demonstrated*.

The cynical wisdom of the medical man is sometimes at fault, and it may be that some cases of rheumatic iritis are wrongly named gonococcal from a too ready trust in the proverb, "Give a dog a bad name and hang him."

These are some points that seem to be of practical importance, and it is clear that should further experience show that the only bacterial cause of rheumatic fever is, as I believe, this micrococcus, we may in the future get a more correct idea of the frequency of rheumatic iritis, of its possible clinical variations, and, above all, we may by means of serum therapy find some antidote.

Before concluding this article it is imperative for me to state clearly, that the view put forward here of rheumatic iritis is neither original nor yet new. In a paper by Sydney Stephenson, published in the *Lancet* (February 29th, 1896), *On the excretory origin of certain forms of Iritis and Cyclitis*, this view is clearly enough enunciated. What I believe to be new is the demonstration by Dr. Paine and myself that a micrococcus which is a cause of rheumatic fever, is also a cause of an iritis in rabbits indistinguishable from rheumatic iritis.

Finally, it is necessary to say something about the micrococcus itself, though with caution, for it is one matter to show that a micro-organism is the cause of a disease and another to say, this is its specific test.

It is a minute diplococcus 0.5μ . in diameter, which grows in streptococcal chains in liquid media and in staphylococcal

masses on solid. A very suitable medium is fresh blood agar, on which it grows in minute discrete colonies which are slightly opaque in their centre. Milk is clotted with considerable formation of acid. It does not liquefy gelatine, and in bouillon forms a slightly granular deposit on the sides and bottom of the tube leaving the fluid above clear.

It has not a definite capsule such as the pneumococcus nor is it as large or lanceolate. Its virulence is usually low and not easy to raise, but it will maintain a certain degree of virulence for months outside the body. It is much more hardy than the pneumococcus. Injected intravenously into rabbits it produces with remarkable constancy, arthritis, pericarditis, endocarditis, pleurisy, and bronchopneumonia. It may produce nodules, nephritis, and curious twitching movements, while the pneumococcus injected intravenously into the rabbit produces almost constant death from septicæmia, and after death numerous capsulated diplococci are found in the blood.

It is then with care easily distinguishable from the pneumococcus. The experimental results in themselves—quite apart from its streptococcal character—are sufficient to distinguish it from the gonococcus.

The great difficulty is its relation to other streptococci. Our opinion is that it is a specific organism in the sense that it produces a specific disease; but others will have none of this, and deny that either the disease or the organism is specific. A favourite device is to call it *the* "streptococcus pyogenes, attenuated." If *the* streptococcus pyogenes is a name to be given to any micrococcus growing in chains irrespective of the pathological lesions it causes or the clinical course of the diseases which result, perhaps it is. For my part, I cannot accept this all-embracing micro-organism, *the* streptococcus pyogenes; but maintain that this micrococcus is different from that which is obtained from the liquid pus we recognise in streptococcal pyæmia of the usual clinical type.

This diplococcus is smaller, more definitely a diplococcus, and more resistant out of the body. The streptococcus obtained from pyæmia may now and again, as I have observed, produce endocarditis or arthritis in a rabbit, but usually it causes septicæmia or marasmus, while this diplococcus usually produces arthritis, pericarditis, and endocarditis. I have never once seen an abscess in the lungs, heart, liver, spleen or kidneys as a result of this infection. Lastly, it is not unusual even for such a feeble animal as a rabbit to recover from the infection after developing undoubted lesions.

The differentiation of these streptococcal organisms, I admit,

is not yet complete, the specific test—if indeed there be one specific test—has yet to be found ; but clinical medicine, and experiment, in my opinion, both point to this diplococcus as not an attenuated something else, but as a special micrococcus.

In this form of iridocyclitis the diplococcus escapes from the minute blood vessels of the ciliary body and iris into the delicate supporting connective tissue. Then it gives rise to swelling of this connective tissue, perhaps necrosis and cellular and fibrinous exudation. The epithelium on the anterior surface of the iris is actively phagocytic, but when it is destroyed by the disease the micro-organisms make their way freely into the fluid of the anterior chamber, and may grow in masses on the anterior surface of iris. With recovery there is destruction of the diplococci by the living cells, and some adhesion and scarring often results, but whether or not in some cases the diplococci may remain latent but not destroyed we have not ascertained in this condition of iridocyclitis, although it does occur, we believe, in other rheumatic lesions.

SOME MODERN OPINIONS ON THE TREATMENT OF INFLAMMATION AND STRICTURE OF THE LACRYMAL PASSAGES.

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THE frequency of blennorrhœa of the lacrymal sac, of phlegmonous dacryocystitis, and of stricture of the nasal duct, in Indian practice, led me, during my recent furlough, to endeavour to ascertain the views held by Continental and British surgeons on the pathology and treatment of these different conditions.

I was the more anxious to learn whatever European surgeons had to teach, as I was thoroughly disappointed with the means ordinarily recommended, many of which I had enjoyed a full opportunity of trying. The protracted nature of these affections, and their tendency to relapse, even after an apparently excellent result has been obtained, too often result in one's suddenly losing sight of a patient, who, weary of a long and painful course of treatment, and hopeless of ever arriving at a permanent cure, absconds and not infre-

quently betakes himself to the dangerous remedies of a native quack.

A first review of the many different opinions I heard uttered, almost drove me to think that it was a case of *Quot homines tot sententiæ*, and that any attempt to harmonise such very discordant views would be hopeless. Further reflection showed, however, that, if one made sufficient allowance for the environment of the individual surgeon, his idiosyncrasies became matters of interest rather than the elements of confusion they had at first sight appeared to be. And, indeed, a surgeon like Völckers, who numbers his extirpations of the lacrymal sac by hundreds, seems, at the first blush, to be in direct opposition to a Gullstrand, who rarely finds himself called on to fall back on removal of the tear sac. Yet if one studies the conditions under which these two able surgeons work, the cause of their differences is at once obvious. In Kiel, a large, bustling centre of German naval activity, Völckers finds his patients amongst the floating population of a huge commercial centre, where want, dirt, and distress are cardinal factors of the medical situation. Gullstrand, on the other hand, lives at Upsala, in the peaceful surroundings of a beautiful, up-country cathedral town, which is devoted to the service of one of the best universities of Europe. His patients are, many of them, permanently resident in his neighbourhood, and the great majority, at least, possess the quiet Swedish temperament. Upsala is as great a contrast to Kiel as one can well imagine. It is not strange then that Gullstrand, who finds no difficulty either in keeping his patients by him for long periods of probe-treatment, or in maintaining a surveillance over them for many years afterwards, should adopt a line of practice essentially different from that of Völckers, who has, only too often, had the mortification of losing a patient from his klinik to-day, to find him return months or years later, with an eye imperilled by *ulcus serpens*. Such a disaster has been the outcome of neglect, ignorance, and dirt, in what might, under happier circumstances, have been an easily treatable case of lacrymal obstruction.

I do not wish to belittle the important factor of the surgeon's individuality. Some men are constitutionally bolder, more ingenious, more experimentally-inclined or in some other way more markedly characterised than others. Such peculiarities merely invest their practice with an increased interest, even when they render it inadvisable for all to follow them too implicitly. A clear appreciation of the value of the many different methods in vogue for the treatment of any one disease, can only be rightly obtained, however, by considering the man in the true setting of his surroundings. Having

done so, we are in a position to mould our line of conduct, with all due regard for the factors which make up our own environment.

On the *pathology* of these affections, there is but little difference of opinion. Stricture of the duct is admitted to be the first moment. It may be brought about by (a) the extension of inflammations from the nasal mucous membrane, (b) the cicatrization of ulcers in, or in the neighbourhood of, the nasal duct, (c) the presence of polypi or other tumours, and (d) by injury or disease of the neighbouring bones. The inflammatory and ulcerative causes may be acute or chronic, and may be due to syphilis, tuberculosis, or other sources of infection. Amongst the last-named, I found some surgeons laid great stress on the influence of nasal catarrhs. Lapersonne, on the contrary, living in crowded Paris, considers the vast majority of his cases to be tuberculous.

Once the secretions have been dammed back by an obstruction in the duct, everyone agrees that a favourable medium has been provided for the multiplication of dangerous organisms in the near neighbourhood of the eye. The natural result of this bacterial activity in the sac is a decomposition of the contained fluid, which irritates the mucous membrane and produces a catarrhal dacryocystitis by the accidental infection of the deeper tissues, through a breach in the mucous membrane. Purulence of the contents of the sac is simply a manifestation of an inflammatory action in its lining layer, and may accordingly be absent for long periods at a time. In a late stage, it is wanting because the mucous membrane is then often atrophic, while in the earlier phases, a clear secretion denotes that the mucous membrane either has never become inflamed or that any such inflammatory action has temporarily subsided.

The point of paramount importance in the pathology of dacryocystitis is, undoubtedly, the danger of an accidental abrasion of the cornea becoming infected by the contents of the lacrymal passages, and thus leading to *ulcus serpens* and all its attendant perils. I cannot better illustrate this point than by falling back on some personal reminiscences.

In the Royal Swedish Hospital at Stockholm, I observed that nearly 50 per cent. of the beds were filled with cases of "injury to the eye." Professor Widmark explained that this was the usual state of things, and was due to the number of accidents which occur in the mining and stone-quarrying industries, on which Sweden largely relies for its prosperity. *Ulcus serpens* is a common result of such injuries, and Widmark estimates that in two out of every three cases presenting this serious complication the lacrymal passages are

unhealthy. He naturally attacks the dacryocystitis vigorously in all such cases. Völckers, of Kiel, has likewise been profoundly impressed with the intimate connection between these same two evils. He showed me in his klinik a man who five years previously had nearly lost an eye from *ulcus serpens* and dacryocystitis; the sac was extirpated; now the man had returned again with the same double condition in the opposite eye.

Tacke, of Brussels, strongly emphasised the same relations for evil between lacrymal mischief and septic ulcer of the cornea, in his interesting report on thirteen years' work in his clinic, published by him in *La Clinique**. Without further multiplying the evidence, one may refer the reader to Fuchs' outspoken opinions, in the same sense, in the last edition of his classic text-book.

We thus find the treatment of dacryocystitis invested with an interest and an importance which, even the painfulness of phlegmonous attacks, would otherwise fail to bestow upon it.

I may be pardoned for the stress I have laid on this point, when I say that it has seemed to me that practitioners in India, at least, are disposed to overlook its far-reaching significance.

Leaving aside for the time being the question of phlegmonous attacks, which, as has already been indicated, may be looked on as in the nature of accidents, we may roughly divide the treatment of lacrymal obstruction and dacryocystitis into two heads, the first of which admits of a further subdivision into two. The main interest of such a division is that it indicates at once the lines of cleavage in ophthalmological opinion on this important subject. The following is the classification referred to:—(1) Conservative treatment, (*a*) by small probes, and (*b*) by large probes; and (2) radical treatment.

The dilatation of the stricture by small probes is practically synonymous with the treatment of the lining wall of the sac and of the duct with injected fluids, for only sufficient dilatation is effected in many cases to let the morbid secretions and irrigations escape. Particularly must this be the case with those surgeons who do not slit the canaliculus, amongst whom one must number many distinguished Russian ophthalmologists. Kanochi, of Warsaw, Adelheim, of Moscow, and Schroeder, of St. Petersburg, all avoid this preliminary measure; so does Von Michell, of Berlin, not to mention others. Landolt, of Paris, always begins the treatment of a mild case with fine probes passed through an uninjured canaliculus, although he

*4e Année, Nos. 21, 22, et 23, 1890, Bruxelles.

does not hesitate to fall back on larger probes passed after a division of the little passage if milder treatment fails, or if more energetic treatment seems called for from the first. The majority of surgeons, on the other hand, divide the canaliculus as a routine preliminary to probing, even although it is quite the exception to find them using large probes. Amongst such, one may mention Nordensen and Widmark, of Stockholm, Hänsen Grut and Bjerrum, of Copenhagen, Juda, of Amsterdam, de Wecker, of Paris, and Fuchs, of Vienna. Lastly, one meets with a few surgeons who lay great stress on the importance of using large sounds in order thoroughly to dilate the stricture. This line of treatment has been ably defended by Dr. S. Theobald, Junr., in his very interesting article contributed to Norris & Oliver's *System of Diseases of the Eye*. I must confess that his example influenced me to give large probes a full trial, and that I am still inclined to believe, that if dilatation is tried at all, it should be pushed as Theobald advises. At the same time, I have to acknowledge that with the exception of de Haas, of Rotterdam, I cannot remember meeting a single surgeon who shares these views.

Of the many fluids injected, both antiseptic and astringent, it would be profitless to speak at length; but before quitting the subject, I desire to clear up what might otherwise be misunderstood. I do not mean to imply above, that there is any direct antagonism between probe and syringe treatment. On the contrary, most surgeons use them side by side, nevertheless there is a distinct tendency, I believe, for surgeons to lean a little more to one or other method, and especially must this be the case with those, on the one hand, whose probe-gauge is limited by the fact that they work with an intact canaliculus, and with those, on the other, who push dilatation to its farthest safe limit.

It has probably been the tendency of the latter class which led Hermann Knapp to write "Syringing seems to be unjustly neglected" (Norris & Oliver, vol. iii., p. 898).

Stilling's operation of Stricturetomy, which he followed by dilatation of the canal with large probes, does not now appear to have any adherents. I must say that in impassable strictures, it has given me good results, which appeared lasting so long as an occasional probing was resorted to. Gullstrand, with more leisure than falls to the lot of a surgeon in India, practically never meets with an impassable stricture. He commences with very fine probes indeed, and carefully and patiently carries on the dilatation. He does not consider the presence of a fistula a bar to cure by probes, even when the fistula remains after full dilatation of the stricture. His results seem to be excellent.

The use of leaden or silver styles (as advocated by Benson, Green, Williams, and others), seems to be quite out of fashion, but I can testify to its value when carefully used in appropriate cases.

A few surgeons lay stress on passing their probes through either the upper or the lower canaliculus. The point hardly seems important. Of more interest, is the period a probe is left in, each time. This seems to vary from a few seconds to half an hour.

We may pass on now to consider the radical treatment of these affections, which consists in the removal of the sac. It has been urged against this measure that it disfigures the patient, and that it removes the natural escape-channels of the tears, and so exposes the subject to constant epiphora. The first objection is quite unfounded, if one may judge by the many cases one has seen after operation in different countries of Europe. Indeed, so hard is it to see the scar, that Haab has seriously suggested the patient being furnished with a certificate of removal-of-the-sac by his operator, in order to prevent a second surgeon from attempting to repeat the operation in ignorance of its having been already done. Haab has actually met with a case in which this mistake has happened. As to the second objection, I have made a point of questioning many honest and able operators on their experience in this connection, and the unvarying answer has been that the comfort of their patients has been greatly augmented by the removal of the sac, and that it is only when exposed to wind, glare, dust, smoke, etc., that any epiphora is complained of. This is Fuchs' view also, and he does not fail to point out the other side of the picture, *viz.*, that the "patients are relieved of the presence of a constantly suppurating cavity, which continually exposes them to the danger of getting an *ulcus serpens*, and which also usually gives rise, from time to time, to acute phlegmon."

Whilst there would appear to be but few surgeons who do not at some time fall back on the radical measure of extirpation, there is nevertheless a great difference between the conditions which each individual surgeon considers as constituting a demand for this drastic procedure. In such matters, as already shown, the operator is partly influenced by the circumstances of his patient, and doubtless partly also by the bent of his own character. A further indisputable element in the situation, in some countries at least, is the force of popular opinion. At first sight it seems astonishing that such a factor should sway men of the calibre of Parisian surgeons of the first class, but such would appear actually

to be the case. Paris swarms with eye specialists, and the public seem to be averse to extirpation of the lacrymal sac. Should any one surgeon, no matter how renowned, obtain the name of habitually resorting to so severe a measure, his clinic would, I believe, be made to feel the influence of the public sentiment in a very short time. In fact, I was told, on the best authority, that this is the case.

Very many ophthalmologists only resort to extirpation of the sac when other means have been fully tried in vain, and not a few such seem to harbour the suspicion that this radical operation is, just now, in danger of being overdone. Amongst those I have met who thus keep the severer measure long in reserve I may mention Adelheim, Schroeder, Nordensen, Juda, Hansen Grut, Bjerrum, Tacke, Coppez, and several famous Paris surgeons. A few particulars of the indications for the operation, as accepted by different surgeons, may be of interest. Schroeder, of St. Petersburg, extirpates (1) if other measures fail, or (2) if a fistula be present. Coppez, of Brussels, extirpates (1) when chronic suppuration is present, (2) when the sac is dilated, (3) when a fistula is present, and (4) when probing is difficult or impossible. Tacke, of the same capital, has only resorted to the destruction of the passage five times in 20 years, and then "only when the re-establishment of the canal had been rendered impossible, owing to the presence of strong cicatrices." Landolt and de Wecker reserve the measure, as already indicated, for extreme cases, in which all else fails. Juda, of Amsterdam, keeps extirpation (1) for cases in which other treatment fails, whilst the secretion remains or becomes purulent, and (2) for those in which a purulent dacryocystitis complicates a cataract which he desires to remove.

Juda has comparatively little fear for the safety of an eye, so long as the fluid retained in the sac remains clear. Widmark's experience, already quoted, points the other way, as does also that of Volckers; nor must it be forgotten that an inflammation of the lining membrane of the sac may, at any time, be set up, and that a purulent condition of the contents may thus be suddenly and unexpectedly determined. Such considerations have induced these surgeons, and others besides, to consider an early interference imperative in all cases of dacryocystitis.

Volckers has performed over 500 extirpations of the lacrymal sac, and recommends the operation in *all but the very mildest cases*. He considers lacrymal obstruction to be a standing menace to the safety of an eye amongst the labouring classes, since working men and women cannot submit to a long course of treatment, while they are the very people most

prone to receive slight eye injuries. Bouvin, of the Hague, holds nearly similar views, but makes a purulent condition of the retained fluid his touchstone for the operation. Laperrière extirpates if suppuration of the sac or fistula are present. Fuchs resorts to destruction of the sac under the following circumstances : (1) when extensive cicatricial contractions are present, or when the nasal duct is completely obliterated, especially if there is evidence of bone disease ; (2) when atony and dropsy of the sac are present ; and (3) when the patient's circumstances forbid a prolonged course of treatment. Lastly, I may be permitted to quote Hermann Knapp's indications for extirpation. These are (1) large mucocoele, (2) chronic fistula (excepting capillary fistula), (3) fibrous or osseous occlusion of the canal with troublesome lacrymation, (4) chronic stricture with lacrymation and discharge, (5) chronic dacryo-cysto-blennorrhoea with degeneration of the sac walls, and (6) chronic catarrhal dacryocystitis with repeated attacks of acute phlegmon. In fact, all those conditions in which "an important lacrymal disease can otherwise not so well, or not at all, be cured."

It would be beside my present purpose to treat at length of the methods in vogue for extirpating the sac. Fuchs recommends opening the sac. Although some operators like to have an actual cautery handy, in case any fragments of mucous membrane are left behind, I cannot remember meeting any surgeon who relied wholly on cauterisation either with the red-hot iron or platinum point, or with Vienna paste, silver nitrate, or any other escharotic. I am, of course, aware that Arlt, Knapp, and other distinguished surgeons have countenanced and employed such measures, and for all I know they may have many followers in Europe, but I met with none of them, if they do exist. Landolt, however, practises a method which is of interest, as belonging to a class of measures intermediate between the more simple usages of the probe and syringe order, and the radical operation we have been discussing. When he finds milder means inefficacious, he slits the two canaliculi, and joins the small incisions so made with scissors, thus entering the sac from above. Through the opening made in this way, he introduces a bead of silver nitrate, with which he freely cauterises the sac wall. His object, be it observed, is to bring about a healthy action of the mucous membrane and *not to obliterate* the sac, which is allowed to close again. The late Professor Panas used to attack the sac from the front, through a skin incision, and then cauterise its walls at dark-red heat. De Wecker and others formerly recommended *curettage* of the sac walls, the application of caustics, and other such measures

through a similar incision to that last mentioned, but I suspect that most of these methods have died a natural death, for I nowhere met with them in practice.

A word as to the duration of treatment required by a case of lacrymal obstruction. Most, if not all, ophthalmologists will agree that one, in which the period may be reckoned by weeks, is both rare and mild. Months, or even years, are a commoner standard of the time spent over the cure of patients suffering from this troublesome malady.

The treatment of phlegmonous attacks is conducted by all surgeons on simple principles, into which it is not necessary to enter.

The only point of interest remaining is the management of *ulcus serpens*. Most surgeons seem to agree that there is no measure to equal the free application of the actual cautery to the ulcer. Widmark, whose experience is probably second to no one's in this line of surgery, uses the cautery in early cases, but prefers, when the ulceration has reached a later stage, to rub the abraded surface with pledgets soaked in solution of hydr. perchlor. (1-1000). He also exhibits salicylate of soda freely by the mouth in such septic cases, and is convinced that the drug exerts a powerful beneficial action. He is most careful to treat any disease of the lacrymal passages at the same time; for this purpose he slits the canaliculus, dilates any stricture, and washes out the passages at intervals with hydr. perchlor. solution (1-5000). Volckers removes the sac at the same sitting as that in which he cauterises the ulcer. He has had a large experience of different methods of dealing with *ulcus serpens*, and has now settled down to use nothing but the cautery for it, preferring heated iron to any other form. He uses it freely, and does not hesitate to repeat the cauterisation several times, if necessary. Tacke, of Brussels, reviewing an experience of 13 years' work, finds he has performed Saemisch's operation 184 times in that period for serpiginous ulcer. If this measure fails to produce a prompt improvement, he uses the galvano-cautery without any delay. He has tried all the other methods of treatment, which have been advocated for septic corneal ulcer, and finds them all greatly inferior to these two more radical measures. As has been already pointed out, his experience of the frequent relation between lacrymal obstruction and septic ulcer of the cornea, coincides with that of Widmark, Volckers, Fuchs, Bouvin, and others well qualified to speak.

In the *Indian Medical Gazette* for August, 1902, I referred to Haab's iodoform bougies, which he introduces *into the eye* in septic traumatic cases.

Lastly, I may mention that a celebrated Continental surgeon

urged on my attention the necessity for keeping open the incision made by a Saemisch's operation for prolonged periods. My own experience has been that if a division of the ulcer is going to do any good, it does it at once, and I consider prolonged interference of this kind mischievous and dangerous, and greatly inferior to falling back at once on the cautery. If this paper seems to be fragmentary and incomplete, my apology is that it is mainly an effort to record something of what I had the privilege to learn first-hand in my recent visits to a large number of European eye clinics. It has seemed to me that such evidence is likely to be more interesting than extracts from books and pamphlets which are open to all alike.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

AN IMPROVED OPERATION FOR THE RELIEF OF PTOSIS PALPEBRÆ.¹

BY N. BISHOP HARMAN, M.A., M.B., F.R.C.S.

THE methods at present in vogue for supplying the deficiency of the M. levator palpebræ superioris may be classed under three types :—

- (1) The reinforcement of the weak muscle by the production of an attachment between the minished tendon of the levator palpebræ and the tendon of the M. rectus superioris, according to the device of Motais.*
- (2) Plastic operations, where the soft parts are adapted in some form or other so as to produce a lifting of the drooped lid, of which the best is perhaps the method of Panas.†
- (3) The provision of an inorganic union twixt the drooped lid and M. frontalis, making a fronto-palpebral elevator, the device of Mules.‡

Each of these methods has its advantages, and unfortunately its defects.

The first of these operations is an "ideal" one, it rests on an attempted reproduction of Nature's first procedure in the development of the elevator of the lid, for the levator palpebræ is formed by a delamination of the muscle tissue of the superior rectus. It is, however, impossible of attainment in some cases of congenital absence of the proper levator, when there is in all likelihood no levator tendon with which to make an attach-

¹ Read in the Section of Ophthalmology at the Annual Meeting of the British Medical Association, 1903.

ment to the rectus. In any case its performance is inadvisable in unilateral ptosis, since by the attachment of the lid to the rectus this muscle is likely to be incompetent for the double duty of lifting both globe and lid, with the result that disturbance of vision from diplopia may follow. With a bilateral ptosis the adjustment of the connections to the nicety required for the proper co-ordination of movements is almost beyond the surgeon's art. Could this be accomplished, there is no doubt that the operation would be an ideal one, but like most ideals, it is rarely attained to. Also there is the danger of considerable exposure of the globe when upturned in sleep.

We are then driven to adopt other and grosser methods, such as those of the second and third order.

The second order of operation, plastic adaptation, has the serious disadvantage following an alteration of the relation of the soft parts, and a cutting operation of some extent. There is the risk to the patient that in the event of a failure to secure a good effect, he will be worse off than before, in the addition of scars to his already marred features.

There remains the third order of operation, the device of compelling the frontalis muscle to do duty as an elevator of the lid, as well as of the brows. And in doing this we are but following out the indication which Nature gives for the remedying of her own defective handiwork. In all such cases of ptosis the frontalis muscles are greatly developed in the endeavour to pull up the lid, the operation merely enables the frontalis to do this to greater advantage by connecting the frontalis with the edge of the lid directly. The provision of an inorganic union twixt lid and frontalis has many advantages, the operation is speedy of performance, there is little damage to the tissue, the degree of elevation of the lid can be adjusted to a nicety either at the time of or after the operation, and lastly if the patient is not pleased with the new conditions the wire suspender can be removed most easily and the lid is *in statu quo ante*.

There are, however, some drawbacks to this operation of Mules :—

(1) The use of a fine wire, which may not be bent too acutely lest it break, renders it necessary to split the free edge of the lid so that a bed may be formed for the loop of wire lying between the two needle tracks. To split the lid without disturbing the hair follicles and producing a subsequent irregular growth of the cilia is difficult, if not impossible.

(2) The knot or knots above the brow are sometimes a source of discomfort, the skin lying over them is liable to irritation from pressure.

(3) The lid is stiffened by the wire, it cannot henceforth

be everted, save at the risk of breaking the wire, so that treatment of conjunctival affections, the removal of foreign bodies are rendered difficult.

(4) There remains within the lid a foreign body, a silver, gold-plated iron, or gold wire, smooth and unsociable, it never becomes part and parcel of the body, it is always liable to expulsion.

One of these drawbacks, the knot of the wire above the brow has been eliminated in a modification of Mules' operation recently described by Worth.§ He recommends the use of kangaroo tendon ligature, by his method of a double loop, the long buried ends above the brow are sufficient to keep it in position without knots. But as he remarks the kangaroo tendon is difficult of proper preparation, it is necessary to split the palpebral margin for its insertion, and lastly he admits that he is not sure of the stability of the suture.

Recently after treating a case of congenital ptosis by the regular Mules' method and remarking the particular objections to it, I experimented on the cadaver with the result that I propose a method of operating whereby all those drawbacks named above can be readily removed, or so reduced as to become a negligible quantity. This benefit can be obtained by the substitution of a *chain* for a wire. I do not pretend for a moment that the operation I put forward is "perfect"—indeed, there must remain one irremediable defect to all operations which aim at compelling a muscle like the frontalis to do a duty for which it was not intended, namely that of elevating the eyelid. The co-ordination normal to lid and globe, particularly in the exquisitely-balanced simultaneous depression of lid and globe cannot possibly be imitated, so there must remain the disadvantage that when the patient strongly depresses the globe the sclerotic above the cornea will on occasion be exposed to view, an appearance not pleasing to the onlooker.

Now-a-days, the making of chains is elevated to almost a fine art, their minuteness, delicacy, strength and flexibility is so perfect. By the use of a fine flexible chain the operation under discussion is reduced to a simple suture passing; there is no necessity to split the lid, there is no need for knot or knots, there is no stiffening of the lid so that it cannot be everted; and lastly, the chain will become so interwoven by the growth of connective tissue within its links that it will be practically incorporated within the connective tissue skeleton of the body, in fact the chain is used now less with the idea of providing a mechanical support to the lid, as to foster the growth around and within its links of a veritable connective tissue tendon.

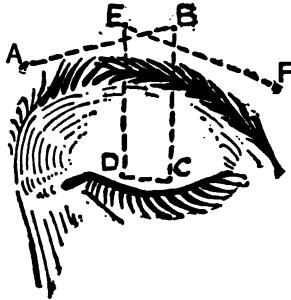
The chain I have obtained for this purpose is similar to that frequently used for the suspension of eye-glasses, pendants, etc., It is commonly known in the trade as "wove chain." Its tensile strength is great; a piece I tried sustained a weight of 15 pounds before breaking. Yet it is light, weighing only 2 grains to the inch. It is slender, measuring only 0.75 mm. in diameter. It can be obtained in various alloys of gold of 9, 15 and 18 carat. It is surprisingly cheap for its beauty and delicacy of construction. The chain is machine-made, of very fine wire, the links are four-fold and woven into each other in such fashion that no solder is necessary to unite their free ends. The weaving of the lengths of wire which form the links is so arranged that they lock the more firmly with increase of tension upon them until the breaking strain is reached. The chain is quite smooth to the touch whichever way it be drawn through the fingers; there are no bosses or projecting points or irregularities likely to catch in the tissue whilst it is being placed in position or adjusted.

The only instruments required for the operation are the length of chain and a 4-inch needle with a triangular cutting point.¶ The use of a long needle facilitates manipulation and obviates the necessity of needle-holders whilst the sharp bayonet end cuts a sufficiently wide track through the tissues for the chain to follow easily.

The chain may be attached to the needle by uniting the two by a small soldered link in such fashion that the end link of the chain is welded into the eye of the needle, and the needle becomes a long sharp-ended prolongation of the chain; such a connection has been made for me very neatly by Messrs. Weiss. There is, however, a simple manner in which the union can be made by the surgeon himself and at any time, without reference to an instrument maker. If the chain be cut with the scissors and the loose fragments of wire removed, a couple of loops will be noticed projecting freely from the end, these can be dilated by passing through them an ordinary fine domestic needle or pin, a strong fine silk suture is now threaded through both loops and the two ends of the silk suture are passed from opposite sides through the eye of the needle; when the loose ends of the suture lie alongside the chain the latter will be securely and smoothly attached to the needle.

The method of implanting the chain will be readily followed by reference to Fig. 1. Inserting the chain-needle above the internal angular process at A, it is passed outwards, and with a slightly upward inclination deeply beneath the tissues of the forehead, to be withdrawn at B, as much of the chain is drawn through as desired. The needle is re-inserted at B,

passed beneath the brow close to the orbital margin and through the tissues of the lid to C where it is withdrawn and the chain drawn after it. In like manner it is passed from



C to D through the substance of the tarsus and withdrawn. It is now returned from D to E above the brow and withdrawn, and a final length embedded above the brow from E to F which is just above the external angular process. Now the chain should be completely buried and evenly stretched between the points A, B, C, D, E and F. And, by traction on the free ends of the chain at A and F the lid can be raised to the degree desired, or this adjustment can be left until the day succeeding the operation. The free ends at A and F are cut off at the proper time, and the extremities of the chain pushed beneath the skin.

The position of the points E and B is of importance; they must be situated in the region of the most effective elevation of the brow by contraction of the frontalis muscle, as determined by experiment before the commencement of the operation.

The lengths of chain lying buried above the brows from A to B, and E to F, and the angles A B C and D E F are arranged so that there is sufficient holding power to prevent the subsequent drop of the lid, but will not prevent adjustment to forcible traction on the lid until the links of the chain have become interwoven and surrounded by the growth of connective tissue. This growth should be sufficiently vigorous by the end of a week to securely fix the chain against all the force of traction of the orbicularis muscle. Until this time the free ends of the chain should be turned towards each other over the skin of the brow and cemented in position by a cotton wool and collodion dressing.

The chain can be most easily sterilised by boiling, it will suffer no damage. The skin of the brow and lids will of course be cleansed by the usual methods. It does not appear at all necessary to shave the hair of the brow.

It will be noted that the method of the operation is simple and expeditious, there is no damage to the skin, lid, or cilia such as must follow incision, there is no knot above the brow; and lastly, the eyelid can be freely everted without detriment to its new support at any time succeeding the operation.

REFERENCES.

*Métais, E.—*La Méthode opératoire du ptoxis*, Angers, 1903.

†Panas.—*Maladies des Yeux*. Tome ii., p. 140.

‡Mules.—*Eighth International Ophthalmological Congress*, August, 1894.

§Worth, C.—*The Ophthalmoscope*, Vol. 1. July, 1903, p. 13.

¶This needle is used by Mr. Bland-Sutton for abdominal operations. It is known as "triangular 4-in. needle." The needle and the "wove chain" can be obtained at Messrs Weiss'.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Grossmann, K. A.—Coloboma Cyst associated with Microphthalmos. LIVERPOOL MEDICAL INSTITUTION, April 23, 1903.

Grossman read a paper on coloboma cyst associated with microphthalmos. The patient, a girl aged 16 years, had a cyst as big as a pigeon's egg bulging into the left lower eyelid. The orbital cavity was small and filled almost completely by the cyst. The right eye was smaller than normal, and exhibited a large coloboma of the choroid. After removing the cyst, a small body, about $\frac{1}{4}$ inch in diameter, was found to lie in the deeper part of the orbit. The cyst was lined in part by columnar epithelium containing some pigment, while amongst the cells were peculiar bodies resembling Pacinian corpuscles. No connection could be traced between the cyst and the small body mentioned above. The last-named proved to be a microphthalmic rudiment lined by folded retinal tissue of the ciliary region type. Grossman discussed the pathological anatomy of coloboma, and stated that in the five cases that had fallen under his personal observation no hereditary history was to be made out, an experience at variance with Von Hippel's recent account of the condition.

Lancet, May 2, 1903.

Lee, C. G., and Stockdale, E. M.—A specimen of Melano-Sarcoma of the Choroid. LIVERPOOL MEDICAL INSTITUTION, April 23, 1903.

Lawrence, H. Cripps.—Ophthalmia neonatorum. *British Medical Journal*, August 22, 1903.

Chiari, Cesare—Upon the small sclero-conjunctival glands of Manz. (Sulle ghiandole sclero-congiuntivali di Manz.) *Arch. di Ottalm.*, vol. x., f. 7, 8. Palermo, 1903.

Cesare Chiari has observed in the course of his numerous microscopic researches: 1. Glandules with single excretory duct. 2. Glandules with double excretory duct, kept together by a tractus, which afterwards unites in a single tube. 3. Glandules in which the two ducts, distinct in the whole of their course, meet in a single terminal dilatation.

The author says that in the glandules with the single excretory duct, this duct terminates either in a dilatation which may be spherical, or in a dilatation which may approach the typical rounded form, or, again, the ovoid form. With regard to the other glandules with the one duct, this may terminate in a gradual dilatation of the tube in such a way as to have the form already observed by Kleinschmidt. As regards the glandules with the double excretory ducts which are thus supported by the tractus, but which unite in a single duct at a variable distance from the point of meeting, the ducts behave as in the case where there is a single one from the start. Finally, there is a further variety, although not common, where the double ducts keep so during all their course to terminate in a single ampulla, thus making at the point of meeting a figure, which from above resembles the figure 8.

Revue Générale d'Ophthalmologie, 31 mai, 1903.

Sourdille (Nantes).—Optic neuritis in infectious maladies. (Des névrites optiques dans les maladies infectieuses.) *La Clinique Ophthalmologique*, 1903.

Sourdille believes in the toxic origin of many cases of optic neuritis, although he admits that such is not the only cause. He exhibited sections from an optic nerve affected with neuritis in the course of a traumatic erysipelas of the face. The nervous tissue had disappeared almost completely, and the nerve was nearly reduced to its connective tissue stroma. The most interesting point, however, was that the central artery and vein were completely obliterated by vegetations, which, by the adoption of Weigert's method of staining,

were shown to contain numberless streptococci. The author concludes that two methods may be concerned in the production of the optico-retinal lesions consecutive to infectious ailments : (1) the anatomical elements become impregnated by toxins circulating in the blood, and (2) the lesions are caused by microbic emboli in the central vessels of the retina.

ARMAND DARIER.

Rollet, Étienne.—The Tuberculous Lacrymal Tumour. (La tumeur lacrymale tuberculeuse.) *Revue Générale d'Ophthalmologie*, 30 juin, 1903.

The first case of primary tuberculosis of the lacrymal sac, it appears, published in France was by Rollet in the year 1899. That author gives in the present communication details of three other cases, where the sac was extirpated, and examined histologically and bacteriologically. Rollet analyses nine cases of the disease—that is, four of his own, two by Grobe, and one apiece by Leidholt, Fick, and Bock. Six of the nine cases occurred in females. The ages of the patients were 8, 10, 14, 15, 18, 22, 26, 27, and 30 years. The tuberculous associations of the disease included a “pulpy” elbow joint (Bock), scrofuloderma of the arm (Leidholt, Grobe), and cicatrices from glandular abscess, with or without osseous lesions. Pulmonary phthisis was not recorded once. The lacrymal affection usually took the form of a “white swelling,” *i.e.*, a definite, painless tumour, either of more or less solid consistence or else conveying a sense of false fluctuation, the skin over which showed little if any change. A fistula may or may not co-exist. In some instances there is definite suppuration, as shown by the escape of pus from the puncta lacrymalia on pressure over the distended lacrymal sac. The nearest glands (preauricular and submaxillary) are often involved, a fact upon which Rollet lays considerable stress from a diagnostic point of view. The recognition of the disease is simplified if a fistula is present, inasmuch as the latter forms a jagged opening surrounded by thinned and violaceous skin—in short, the signs of an ordinary tuberculous fistula. Rollet surmises that most lacrymal fistulæ, rebellious to probing and complicated with osteitis, are of tuberculous origin. The prognosis varies according to the treatment adopted. Left to itself, the disease becomes complicated with fistula. As to treatment, Rollet urges that neither *curettage* nor cauterisation be adopted, since by those means the neighbouring parts may be infected with tuberculosis. He strongly advises that the diseased lacrymal sac be extirpated in its entirety. In doing this, it is not necessary either

to drain the wound or to unite its edges by sutures. A simple dressing, placed flat over the incision, is all that is needed to bring about speedy union.

Tournadour.—Affections of the uveal tract in hereditary syphilis. (Des manifestations syphilitiques héréditaires du tractus uvéal.) *Thèse de Bordeaux, 1903.*

Choroiditis, a common enough manifestation of hereditary syphilis, generally declares itself side by side with interstitial keratitis. Although it is impossible to claim that it assumes a characteristic clinical appearance, yet it may be looked upon, in general, as a disseminated choroiditis with a special localisation of the atrophic areas in the region of the ora serrata. It is most frequently met with in patients whose ages range from 7 to 15 years. Prognosis, as a rule, is good. The atrophic lesions may remain limited to the region of the ora serrata, while their evolution may often be arrested by treatment. Iritis is much less frequent than choroiditis in the subjects of inherited disorder. It is usually insidious, indolent, and accompanied by abundant exudation (the plastic iritis of Hutchinson). A rare form is gummatous iritis, characterised by the formation of small, yellowish nodules in the substance of the iris, and now and then difficult to differentiate from analogous products due to tuberculosis. The prognosis of iritis is grave, since it often tends to occlusion and exclusion of the pupil. The uveal manifestations of hereditary syphilis, according to Tournadour, should be treated by atropine locally, and by potassium iodide and mercury internally.

ARMAND DARIER.

Lagrange, F. (Bordeaux).—Congenital cyst of the orbit with microphthalmos. (Kyste congénital de l'orbite avec microphthalmie.) *Madrid Congress. 1903.*

Congenital cysts of the orbit accompanied by microphthalmos are sometimes colobomatous cysts, and sometimes, and more often, cysts due to the imprisonment in the tissue of the orbit of a part of the mucous membrane of the lacrymal passages, from which results a cyst produced by a diverticulum of the lacrymal apparatus. In this case, the eye is hidden behind a collection of liquid, bluish in colour, and fluctuating.

Lagrange describes a tumour of the orbit in a child, aged six months, where the eye appeared to be absent, although it was in reality present but hidden by the neoplasm. The tumour was as big as a pigeon's egg. It lay below and within on the right side, *i.e.*, the seat of election for cysts of this kind. It was found to consist of three parts: (1) the eye as

big as a pea ; (2) a consistent fleshy part ; (3) another consisting for the greater part of little empty pouches. Microscopical examination showed that the eye was complete in structure, that the neighbouring tumour was fatty and muscular, and that the cavities, which numbered from 15 to 20, were distended during life by a clear liquid. In the walls of these cavities were many arteries, of which several contained blood-corpuscles, that is to say, they were in communication with the blood-stream. In Lagrange's case, therefore, one is dealing with an orbital angioma, which had become cystic during intra-uterine life, and which had interfered with the proper development of the eye by mechanical compression.

ARMAND DARIER.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Scrini and Bourdeaux.—On the so-called essential intra-ocular hæmorrhages. (*Des hémorrhagies intra-oculaires dites essentielles.*) *Archives d'ophtalmologie*, mars, 1903.

Scrini and Bourdeaux record the cases of two men, aged 22 and 26 years respectively, each of whom suffered from copious hæmorrhages into the vitreous humour. Incidentally, they make a complete study of such effusions, about which there is still much to learn. The authors admit the existence of an intoxication, the source of which, as Panas supposed, may lie in "*l'évolution tumultueuse de l'organisme*" or in some personal affection, as rhinopharyngitis, dyspepsia, alcoholism, or syphilis, acquired or inherited. They allude to the works of Gley, Pachon, Delezenne, and Arthus, as proving that the absorption of certain products of digestion may induce an incoagulability of the blood through the formation of an anti-coagulable substance manufactured by the liver at the expense of the leucocytes. They mention, finally, an individual predisposition (often hereditary) to affections of the venous system, leading to varices. The authors are of opinion that even the simple forms of vitreous hæmorrhage are serious, owing to the possibility of relapses. The treatment is well enough understood.

ARMAND DARIER.

Hunt, E. Henderson.—Notes on a case of double subconjunctival hæmorrhage caused by compression of the chest. *S. Bartholomew's Hospital Reports*, 1902.

The patient was a carman, aged 39 years, who, while driving

a van weighing two tons under an archway, became jambed beneath it, while leaning forward and endeavouring to pass. He was unconscious when admitted, and had double sub-conjunctival hæmorrhages which overlapped the corneæ, and there was ecchymosis of the eyelid. Fracture of the base of the skull was diagnosed. However, the patient got quite well, and left in six weeks. In all probability the skull was not fractured but the ecchymosis was caused by rupture of the orbital veins consequent on excessive intra-thoracic pressure. Of 10 other cases of crush admitted, 8 resembled the above, and fracture of the skull was feared. Details of these cases are given, as well as a description of 2 other cases.

Hartridge, G.—*Westminster Hospital Reports*, Vol. 12.

A case of temporal hemianopsia due to fracture of the base of the skull.

Jessop, W. H. H.—**A case of Ethmoidal Mucocoele.** Cases published in the *S. Bartholomew's Hospital Reports*, 1902.

Tuberculous tumour of the conjunctiva in a girl, aged 9 years. Its nature was proved bacteriologically.

Glioma of the retina in a boy, aged 4 years, who had a condition that was at first thought to be hypopyon. The eye was excised, but the patient died of the disease, and the fluid that was at first thought to be lymph in the anterior chamber was found to consist of glioma cells.

Membranous conjunctivitis in a baby, aged 2½ years. The case was one of diphtheria, and the treatment with antitoxin was in every way satisfactory.

Barrett, James W. and Orr, W. F.—**Almost complete loss of the associated movement for convergence.** *Intercolonial Medical Journal of Australasia*, May 20, 1903.

Barrett and Orr record a case which exhibited the comparatively rare condition of almost complete loss of one group of associated movements without the individual loss of power in any single muscle. The facts of the case are briefly as under: a woman, aged 24 years, thin, delicate, nervous, and debilitated by recently nursing a baby, complained of occasional diplopia. She did not see double unless there was an effort of vision, and especially of accommodation. The sight of each eye (corrected) was almost $\frac{1}{8}$. The patient was unable to fuse the two images of a point of light at 5m. with a prism of 1° base out, or with a prism of 4° base in. The excursions of the individual eyes were normal, and, as measured with the tropometer, practically equal, but there was no capacity for convergence. One sister was a deaf mute, and another had become deaf.

Stephenson, Sydney.—**Tuberculosis of the Conjunctiva Cured by X-Rays.** *British Medical Journal*, June 6, 1903.

Stephenson's case of tuberculosis of the conjunctiva is the first on record where cure has been obtained by X-rays. A child, aged 4 years, presented numerous miliary granulations and folds of cockscomblike material in the lower palpebral conjunctiva of one eye; similar changes existed in the upper retro-tarsal folds. There was marked swelling of the corresponding side of the face and neck, due partly to induration of the preauricular and submental glands, and partly to a condition of diffuse lymphangitis. Diseased material removed from the conjunctiva showed a typical histological picture of tuberculosis, and contained, besides, a limited number of tubercle bacilli. Inoculation experiments yielded a positive result. The affected conjunctiva was treated with X-rays on thirteen occasions, each averaging ten minutes. In the result the case was cured, without any visible cicatrisation of the conjunctiva. It may be noted, as a point of some little interest, that tubercle bacilli were found in cover-glass preparations made from a gland removed from the patient's neck.

Fage.—**The serious forms of conjunctival epithelioma.** (*Las formas graves del epithelioma de la conjunctiva.*)

XIVe, Congres Intern de Med., Madrid, and Arch. de Oft. Hisp.-Americ., mai, 1903.

Fage recalls the fact that although epithelioma of the conjunctiva is usually a relatively benign tumour having little tendency to generalise itself and to perforate the ocular membranes, yet there exist graver forms. Sometimes it is that of a perforating neoplasm, the epithelial element invading the interior of the eye at the level of the limbus; sometimes the tumour spreads to the orbit and to the glands. The author has observed a case of this kind in a man, aged forty-nine years; the external two-thirds of the ocular conjunctiva were invaded by a flattened ulcer (flattened, lobulated, non-pigmentary epithelioma). Enucleation was followed by an orbital and glandular relapse. In such cases a careful exenteration of the orbit should be practised.

Revue Générale d'Ophthalmologie, 31 mai, 1903.

Rollet, Marcel.—**Note upon a case of bilateral blindness consecutive to Measles.** (*Note sur un cas de cécité bilaterale consécutive a la rougeole.*) *La Clinique Ophthalmologique, juillet 25, 1903.*

Marcel Rollet relates the case of a girl, aged 13 years, who suddenly became blind some months after an attack of measles, which was neither severe nor complicated in any way. The

pupils were inactive and dilated as if by atropine ; the media were clear ; the fundus presented a yellowish colour ; the optic disc was of an orange colour with imperfectly defined outline ; and the retinal arteries and veins were much reduced in size. The visual field for white was concentrically contracted—to within 10° around the fixation point of the right eye and to within 15° in the left eye. Colour-vision was abolished. The existence of a central scotoma was doubtful. A month later, pigment was found at the periphery of the fundus. Rollet believes that the toxins of measles produced an acute degeneration of the retinal elements, followed by atrophy of the optic nerve and retina, thus giving rise to appearances of the fundus recalling those of certain forms of pigmentary retinitis.

ARMAND DARIER.

III.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Mansilla, D. S. G.—Treatment of suppurative keratitis with hypopyon by sub-conjunctival injections of methylene blue. (Tratamiento de la queratitis supurada con hipopion por las inyecciones sub-conjuntivales de azul de metilo.) *XIVe Congrès Intern. de Medec., Madrid*, and *Arch. de Oftalm. Hisp.-Americ.*, Avril, 1903.

Marsilla recommends applications of methylene blue in the treatment of hypopyon keratitis, already proposed and adopted by Rollet (See *Lyon médical*, 17 février, 1901.) He states the advantages of methylene blue, of which the injection is almost painless, and it acts very well as an antiseptic, even, we may add, as an analgesic. Further, we share most readily the enthusiasm of the author, inasmuch as we placed methylene blue nearly four years ago in the front rank of our therapeutic arsenal. According to the assertions of Rollet and Courmont (*Annales d'Oculist.*, mai, 1901), the method is entitled to be considered almost as a specific.

Revue Générale d'Ophthalmologie, 31 mai, 1903.

Maynard, F. P.—After-results of 63 cases of depression of the lens performed by Indian cataract prickers. *Ophthalmic Review*, April, 1903.

The couching operation the native performs is that of entering the needle through the cornea. Notes of 63 cases in which this was done are given. Of these 39, or 61.9%, obtained fairly good vision for varying periods, but only 29,

or 46%, had retained it up to a period of nearly five years. Of the 29 five had $\frac{6}{8}$, one each had $\frac{6}{9}$, $\frac{6}{12}$, and $\frac{6}{24}$, three had $\frac{6}{18}$, and two had $\frac{6}{30}$. The remaining 16 were not accurately tested. There were 50 male and 13 female eyes. Of eight eyes in which the lens was fixed seven had good results and four of them had $\frac{6}{8}$, but of eight in which the lens was movable six had good vision and two had P.L. only. Ten eyes had increase of tension, and tension was found in 14 eyes.

Thirty-five operations were performed for the removal of the cataract in the other eye, the first having been couched and these gave 22.85% of failures, and these occurred chiefly in those whose other eye had been lost as the result of couching, thus looking as if some constitutional condition was responsible.

Twice attempts were made to remove couched lenses, once it succeeded, and in the other case it was found too firm to move and it was left, but the eye recovered with $\frac{6}{8}$ vision.

A pathological report is given of the examination of one eye that was removed after couching.

De Lapersonne, F.—Upon some modifications in Ptosis operations. (*Sur quelques modifications dans les opérations de Ptosis.*) *Société française d'ophtalmologie*, mai, 1903.

De Lapersonne believes that the exact method of operating for ptosis should vary according as the levator has lost its action completely or only partially. In the former case, complete paralysis, the author has performed Panas's operation, although he prefers that proposed by Angelucci in 1900. Angelucci's operation consists in grafting the tendon of the levator, previously detached, to the occipito-frontalis, by means of sutures following a deep course under the eyebrow. De Lapersonne sutures the two tendons together, but by the same method as is adopted in Panas's operation—that is to say, by fastening the tendon to the upper lip of the frontal incision. In the second case, when the levator has retained some of its power, the author increases its action by advancing its insertion into the anterior surface of the tarsus.

ARMAND DARIER.

Story, J. B.—Strabismus convergens and its treatment. *Medical Press & Circular*, July 8th, 1903.

Story prefaces his communication by a brief account of the theories of causation of convergent squint as expounded by Donders, Hansen Grut, Schweigger, Alfred Graefe, Priestley Smith, and Claud Worth. He then enumerates the points that should be investigated in all cases of squint, such as the

kind and degree of the deviation, refraction, presence or absence of diplopia, power of the muscles, and the possible excursions of the punctum proximum of convergence. Lastly, the treatment of squint is considered under the three heads of (1) optical, (2) operative, and (3) orthoptic means. Story insists that no infant is too young to be treated for squint, inasmuch as it is only in the first years of life that one can hope to develop the fusion faculty. Three cases illustrative of the value of orthoptic and optical treatment accompany the communication.

Reid, A. D. and Edmunds, Arthur.—A simple eyelid everter.
Lancet, August 15, 1903.

In order to avoid exposure of the surgeon's hands while keeping a patient's eyelids everted during the treatment of trachoma by the x-rays, the authors have devised a simple appliance. The latter consists of a spring (shaped something like Cornet's well-known bacteriological forceps), ending in two rubber-coated jaws curved to correspond with the contour of the edges of the eyelids. Attached to one of the jaws of the instrument is a piece of curved wire, so adjusted as to correspond to the upper edge of the tarsal plate when the clip lies in place. To apply the instrument, the spring is pressed together, and the eyelashes are seized between the jaws of the clip in such a way that the piece of curved wire lies on the cutaneous surface of the eyelid. The whole clip is then simply turned upwards, where it can readily be fixed in position by tapes. The little instrument is made by Messrs. Harry Cox, Ltd., of Cursitor Street, Chancery Lane, London, W.C.

Peyraud.—A critical study of the Operation for Removal of the Gasserian Ganglion (Etude critique sur la résection du ganglion de Gasser).—Thèse de Bordeaux, 1902-1903.

It seems to be established that certain cases of rebellious facial neuralgia and painful blepharo-spasms are due to a lesion of the Gasserian ganglion. On this account destruction of the ganglion possesses some interest from an ophthalmic point of view. When there is no appreciable lesion of the ganglion, although its extirpation is followed by the disappearance of neuralgia, the cure must be explained by destruction of the nervous centre, which includes the neurons or nervous cells, of which the simple section of the nerves suppresses only the prolongations.

The operation through the base of the skull, despite the relatively satisfactory results that it has yielded (6 deaths amongst 33 operations), is difficult and dangerous. It permits, at best, an incomplete intervention, and is now rightly given

up. The operation through the temporal region (nearly always adopted abroad) presents considerable advantages. It gives good results, but it yields hardly a wide enough access to the ganglion. The intradural method has given bad results. Opening the dura mater is a useless complication, and should be avoided. The temporo-basal operation is the most convenient way of reaching the Gasserian ganglion. Dr. Villar's method is to be preferred, as by it the complete extirpation of the ganglion is possible. Hæmorrhage, the wounding of nerves, and cerebral compression are the immediate surgical accidents. As remote accidents, one has to dread, in addition to infections, eye and ear troubles.

A. DARIER.

Marquez.—A contribution to the study of Dionine as an Ocular Analgesic. (Contribution à l'étude de la Dionine comme analgésique oculaire.) *La Clinique Ophthalmologique*, Nos. 8, 9, and 10, 1903.

According to Marquez, dionine deserves a definite place amongst the remedies employed in eye work to quell pain. It is nearly always efficacious for this purpose, and the differences in its action are to be explained by the intensity of the disease and the state of the patient. It is no longer necessary to assign to dionine a value greater than it really possesses. Dionine in most cases is not a curative agent, but a symptomatic remedy of transient action. With regard to the way of using dionine, Marquez advises against its employment as a powder or as a concentrated solution, which, according to Dr. Neuschuler, of Bonn, is capable of setting up great pain. Much diluted solutions must be equally avoided, inasmuch as they fail to produce an analgesic effect. The strength may vary from a 5 per cent. solution, as recommended by Darier, to a 1 per cent. or even $\frac{1}{2}$ per cent., solution, as praised by Jocqs. The former may be employed when the application is made by the surgeon himself, while the latter may be given to the patient for home-use, alone or combined with other medicaments. As dionine is compatible with mydriatics and myotics, the commoner therapeutic indications may be readily fulfilled.

Marquez concludes :—(1) That the therapeutic group of local ocular analgesics has now become a reality, and that of these agents dionine has been studied more than any other. (2) That the analgesia of dionine is to be obtained in almost every case. (3) That the action of dionine, although very important, is symptomatic and transitory, and that its curative action is limited to a few cases only. (4) That dionine should be employed only when pain becomes

intolerable, and in order to avoid tolerance, the application should be discontinued whenever the analgesic effect is produced. At the same time, the curative indications of the particular case must not be lost sight of. (5) That the physiological action of dionine is exerted on the nerve-endings, which are first excited and afterwards paralysed. Dionine also acts upon the vessels, producing a great dilatation of the latter and a marked consecutive chemosis. It is not known whether this last action is due to direct action upon the vessels or to the vaso-motor system. (6) That the analgesia is explained mainly by an energetic, non-inflammatory deviation of the intra-ocular fluids towards the sub-conjunctival tissue. (7) That the depression following the primary excitation of the nerve-endings can no longer be excluded as a cause of the analgesia. The analgesia seen in superficial corneal lesions and the cessation of the smarting in blepharospasm may be thus explained. (8) That the alleged absorbent action of dionine as regards sanguineous or inflammatory exudations, although rational in theory, needs further observation before it can be considered as definitely established.

A. DARIER.

(1) **Snell, Simeon.**—On Peritomy for Diffuse Corneitis and other affections of the Cornea. *Lancet*, May 30, 1903.

(2) **Elliot, Captain, R. H.**—Peritomy. *Lancet*, June 6, 1903.

(1) Snell has performed the operation of peritomy in about 100 cases of diffuse keratitis, and considers it a remedy of particular value in that condition. He has also operated in chronic ulcerative keratitis and in some cases of iritis and kerato-iritis.

(2) Elliot praises peritomy in trachomatous pannus.

Mazet.—On benzoate of lithium in the treatment of corneal nebulae. (Du benzoate de lithine dans le traitement des taies de la cornée.)

Société française d'Ophtalmologie, 1903.

The appearance of calcareous particles in opacities of the cornea may be an early or a late symptom. In the latter case they represent a sclerotic or degenerative change in the cicatricial tissue, constituting a veritable chemical keratitis (Panas). The particles are oftenest seen after ulceration, but may occur after local and general affections of the cornea unassociated with ulceration. Mazet tried to find some means of treating this condition at once simple, active, easy to apply, and capable of being used for long together without damaging the cornea. With this object in view, he has experimented

with the various salts of lithium, especially with those commonly given by the mouth for the purpose of dissolving the calcareous products of gout and rheumatoid arthritis. As the outcome of these experiments, the author recommends the following lotion to be dropped into the eye two or three times a day :—

Benzoate of Lithium	..	Ogr. 25 to 1 gramme.
Sterilised water	.. .. .	10 grammes.

The strength of the solution may, however, be varied according to the case. In children and nervous subjects, a feeble solution (1:40) may be used at first, but this should later be replaced by a 1:20 solution. The latter is well tolerated by the eye for a long time without any pain or the least inconvenience. How can the action of the benzoate of lithium upon calcareous deposits in the cornea be explained? Under the influence of organic and vital reactions, the benzoic acid becomes converted into formic acid, which in its turn is converted into water and carbonic acid. These reactions (ending in the production of carbonic acid) are not without influence, as we know that carbonic acid is capable of dissolving a certain quantity of calcium phosphate and carbonate. Benzoate of lithium, therefore, is a solvent not only of uric acid and of urates, but also of the phosphate and the carbonate of lime. The last property explains the good results that follow its application in corneal opacities made up of calcareous deposits. The benzoate, moreover, is indicated in forms of keratitis connected with gout, where the corneal deposits now and then include uratic deposits (Chevallereau).

Benzoate of lithium, in brief, is indicated in all corneal opacities, which clearly show calcareous deposits or where the presence of the phosphate or carbonate of lime is even suspected. In fact, it is such spots only that are likely to respond to the treatment. In these cases one may get results not so far obtained by any of the numerous means at our command.

A. DARIER.

Lagrange.—**Upon the Diagnosis and Treatment of Tumours of the Orbit.** (Sur le diagnostic et le traitement des tumeurs de l'orbite.) *Société française d'Ophthalmologie* mai, 1903,

Lagrange reserves the name "tumour" for neoplasms, as cysts, vascular growths, osteomata, fibromata, sarcomata, or carcinomata, which are found in the cavity or the walls of the orbit, or which, originating elsewhere, invade the orbit secondarily. The medical treatment of such tumours can scarcely be said to exist; it is applicable only to pseudo-tumours, and then solely in cases of doubtful diagnosis.

Lagrange considers the operations applicable to different tumours of the orbit, and the particular indications of each of these operations. A tumour may be removed in the following ways:—(1) With preservation of the eye through (a) the soft parts, or (b) the osseous walls of the orbit; (2) With removal of the eye and some of the orbital tissues; and (3) By exenteration of the orbit. Lagrange describes exenteration with or without partial preservation of the conjunctiva (*sub-conjunctival exenteration*), and also gives an account of the various plans devised to cover up, to conceal, or to close the orbital cavity. In dealing with tumours of the optic nerve, Lagrange prefers operation by the transpalpebro-conjunctival method to Krönlein's operation. The former is, he thinks, easier, as certain as, and less likely to be complicated than the Krönlein plan.

Lagrange reaches the following conclusions.—(1) Intra-ocular tumours soon spread to the orbit, a fact that explains the frequency of local relapses. (2) In the treatment of malignant intra-ocular tumours, exenteration of the orbit should be the rule and enucleation the exception. (3) Enucleation is indicated only in fusiform leuco-sarcomata of the uveal tract and in rare cases of commencing glioma endophytum. (4) Complete evisceration of the orbital cavity should invariably be practised in melanotic sarcoma of the uveal tract, in embryonic white sarcoma, and in the great majority of retinal gliomata.

A. DARIER.

Fromaget, M. C. (Bordeaux).—The technique of partial ablation and of evisceration of the eyeball. (Technique de l'amputation et de l'éviscération du globe de l'œil.) *Société française d'ophtalmologie, mai, 1903.*

Fromaget points out that if one tries to bring together the edges of the scleral incisions in the operation of abscision, a considerable quantity of vitreous humour must inevitably be lost. Accordingly, he makes no attempt to bring the scleral wounds together, but contents himself by merely approximating them by catgut sutures passed through the tendinous insertions of the four recti muscles and tied together in pairs; the conjunctiva is sutured over all. Fromaget also employs the same method after the operation of evisceration of the eyeball.

ARMAND DARIER.

Mahodeau.—Treatment of syphilis by intra-venous injections of mercury. (Traitement de la syphilis par les injections intra-veineuses de mercure.) *Thèse de Paris, mai, 1903.*

With regard to the treatment of syphilis by means of the

intra-venous injection of mercury, Mahoudeau has reached the following conclusions: (1) The *technique* of the intra-venous injection of the mercurial salts, although perhaps somewhat more delicate than that of ordinary subcutaneous injections, is so simple that it can be carried out by any medical man. In fact, to obtain success, it is merely necessary to operate with care, according to the rules of asepsis. (2) Intra-venous injections have never given rise to those serious accidents, as abscess, phlebitis, and embolism, that theory led us to anticipate. Sepsis is, in the present state of our knowledge, simply inexcusable. With respect to accidents due to faulty *technique*, such as the passage of injected fluid into the parts around a vein, they are always more annoying than serious. (3) Intra-venous medication has two great advantages over subcutaneous or intra-muscular injection, in that it is quite painless and never followed by tender local swellings. (4) The mercurial salts employed include sublimate, the benzoate and the cyanide of mercury. They should, above all, be soluble. It is an advantage, also, if they do not coagulate the albuminoids of the blood, but that condition is not indispensable, inasmuch as sublimate has often been used with success and without obvious inconvenience. (5) Hydrargyrisms appear to be uncommon when the salts of mercury are introduced directly into the blood-stream. When that condition is produced, it quickly appears and disappears. It is, therefore, very necessary to form, as soon as may be, some idea as to the tolerance of patients subjected to this form of treatment. (6) The therapeutic effects of intra-venous injections are more energetic and more rapid than those obtained by any other means. At the same time, it seems that they are less durable—that is, if the treatment has not been prolonged. (7) Although intra-venous injections have been proved to act upon all specific manifestations, yet it appears that they should be reserved for lesions rebellious to other means of treatment or to such serious or urgent conditions as ulcerating gummata, affections of the eyes, or spinal or cerebral syphilis. When immediate danger is past, they may be replaced by the ordinary means. (8) It has been shown by Tommasoli that, adopted at the beginning of syphilis, intra-venous injections may be relied upon as a means of abortive treatment.

ARMAND DARIER.

REVIEWS.

Elementary Ophthalmic Optics.—By FREELAND FERGUS, M.D., F.R.S.E., Surgeon to the Glasgow Eye Infirmary, etc. London: BLACKIE & SON, LTD., 1903. Price 3s. 6d.. net.

A small book entitled "Elementary Ophthalmic Optics," and consisting of 106 pages, has been written by Dr. Freeland Fergus with the object of setting forth, "in a clear and simple manner, those portions of physical and geometrical optics which I consider essential to the medical student beginning his ophthalmic studies." It is divided into three chapters; the first describes the properties of light and reflection; the second, refraction; and the third, lenses. There is also an "Introduction," which consists solely of the plane trigonometry necessary to understand the book, and an appendix which describes the spectrometer.

It will be noticed that the book contains nothing about Ophthalmic Optics, and the author states in the preface that "the subject of physiological optics is not discussed, since that branch of ophthalmic study is, as a rule, sufficiently explained in text-books dealing with diseases of the eye." Hence the title of the book is somewhat of a misnomer. It is to be regretted, moreover, on other grounds, since a book with precisely the same title (and with just claims to it) was published by J. H. Parsons in 1901, a fact that may lead to confusion. The measurement of the angle of squint by prisms (the only method described), is open to considerable fallacy, and as this is the only reference to a definite eye condition, it might have either been left out or else the subject entered into fully. The rest of the book contains proofs of formulæ for mirrors and lenses.

Diseases and Injuries of the Eye, with their medical and surgical treatment. By GEORGE LAWSON, F.R.C.S.Eng. Sixth edition, revised and in great measure re-written, by ARNOLD LAWSON, F.R.C.S.Eng. London: SMITH, ELDER, AND Co., Waterloo Place. 1903. P. 587. Price 15s. net.

A book that at once enjoyed considerable popularity was the one by Mr. George Lawson, the last edition of which appeared so long ago as the year 1885. The present or sixth edition, just brought out by Mr. Arnold Lawson, has been

revised and in a great measure re-written, and is, indeed, difficult to recognise in its new guise. In this case we trust that the experiment of "putting new wine into old bottles" will be an unqualified success. The book is well got up and profusely illustrated. It is arranged in the usual style, starting with a chapter on elementary optics, leading up to refraction and the ophthalmoscope, and a description of the other instruments used in the examination of the eye. There is a chapter on retinoscopy and the prescribing of spectacles, and, after that, diseases of the eye are fully discussed. Conjunctival affections are well described, although one or two statements are made that strike us as opposed to the views generally accepted. For example, on page 101, the authors, speaking of diplo-bacillary conjunctivitis, say that the disease in question "appears to be limited to adults"; and, again, on the same page it is claimed that ophthalmia neonatorum usually affects both eyes simultaneously. As Mr. Arnold Lawson is known to have spent much time upon the bacteriology of the eye, his descriptions of affections of the conjunctiva will be read with special interest.

A feature of the book is the thorough way in which the literature of the various subjects has been consulted. There is scarcely a paper of importance, British or foreign, that is not mentioned in the text. Mr. Arnold Lawson has shown such good judgment in his selection of references that the book will thereby be rendered of great service to original workers, as well as to those for whom it was specially written, namely, students and practitioners.

In a few places—such, for instance, as when treating of diseases of the frontal sinuses—there still remain traces of the older editions, which are a little out-of-date. A chapter to which we would call especial attention is the one on diseases of the nervous system. We must also mention the unusually complete index, which far transcends anything of the kind we have seen before in a medical work. It is a most useful feature.

The text is almost free from blunders. There are, however, a few grammatical slips, which Mr. Lawson should eliminate from his next edition. As an example, we may mention "each of these subjects will be found fully discussed under their respective headings" (page 102). The so-called "split infinitive" abounds.

As a whole, the book is excellent, and will rank amongst the best of those in existence. Mr. Arnold Lawson is to be congratulated on producing so good a text-book.

CORRESPONDENCE.

[While the *Ophthalmoscope* will at all times welcome correspondence from its readers, the Editor does not hold himself responsible for any views expressed in this column.]

"ON FIXATION OF THE EYE DURING OPERATION."

I have read Mr. Tatham Thompson's communication on the above subject with interest. A good many years ago I experienced the same difficulty in efficiently controlling the tendency to involuntary upward movement of the eye during operation, and after some experimenting, I had Messrs. J. Weiss & Son make for me a small bident, with a sharp hook at each extremity, which bites into the scleral and episcleral tissues on each side of the cornea, and can be fixed at any level desired. With this little instrument one has full and perfect control over upward movements of the eyeball, without causing any pressure on the globe, as all the force used is of the nature of a pull or traction, without the pressure it is almost impossible to avoid when using forceps. The same firm also made for me, at the same time, a double fixative forceps, that is, a forceps, like an ordinary fixation forceps, but with each limb divided, thus permitting of fixation on each side of the cornea at one and the same time. This is useful in preventing rotation of the globe when making the incision.

J. WILSON BLACK.

46, Academy Street,
Inverness.

SQUINT: ITS CAUSES, PATHOLOGY AND TREATMENT.

SIR,

In the notice of my book on *Squint*, which appeared in your last issue, the reviewer says, "It is a pity, by the way, that Figure 30 (page 208) is printed upside down." The figure is not printed upside down. In performing the operation of advancement of a rectus muscle I always (as explained in the text) stand behind the patient's head. The drawing of the operation is therefore made from this point of view.

Yours faithfully,

Harley Street, W.

CLAUD WORTH.

NOTES AND ECHOES.

THE next meeting of the Ophthalmological Society will be held on Thursday, the 29th October. In addition to an address by the President, Mr. John Tweedy, the following papers are announced:—

MR. E. NETTLESHIP.—"Tumour of the Choroid in an Eye with old Choroiditis."

MR. J. H. FISHER.—"A Case of Tumour of the Choroid associated with Iritis."

CAPTAIN F. O'KINEALY.—"An anomalous Case of Tobacco Amblyopia."

MR. S. MAYOU.—“The Pathological Anatomy of the *Plaques* in Epithelial Xerosis.”

* * * *

THE dates of the other meetings of the Ophthalmological Society during the ensuing Session are as under:—November 19th and December 10th*, 1903; January 28th, February 11th, March 10th*, May 5th, June 9th, and July 7th, 1904. The two dates marked with an asterisk are Clinical Evenings.

* * * *

THE poor immigrant is still with us, not only so, but he has become an object of universal distrust, not to use any stronger term. Naturally enough, when harried beyond endurance in his own country, he turns to the United Kingdom as a place of refuge from the regions of Draconian laws and of harsh police administration. In the land of his adoption, to wit, our own tight little island, he has swollen the already teeming market of unskilled labour, he has entered into competition with many of the lower branches of skilled labour, and he has recruited the criminal classes with many subtle brains and lissom fingers. Yet it may be doubted if the principles of freedom and of political economy upon which the British Constitution has been founded will ever permit the unqualified exclusion of alien immigrants. The diseases attached to his in-coming are various. He is credited, for instance, with nearly all the Favus that crops up in the United Kingdom and in America. As to Trachoma, he is a fruitful and constant source of fresh infection. In New York City last year it is officially reported that 25,000 cases of trachoma were nearly all traceable to the association of sufferers with persons affected on board ship, before or after landing. This statement should give our Home Government pause. Whatever else is done or not done, every trachomatous immigrant coming to our shores should be at once isolated, and either sent back to his own country or detained until cured. Otherwise the prospect of freeing our population from this disastrous scourge will be postponed *sine die*.

* * * *

FOR trachoma flourishes amongst the poor of many Continental populations with the rank luxuriance of a water weed that has lighted in a favourable situation. With almost inconceivable rapidity the malady spreads amongst a community that lives amid the surroundings begotten of poverty and overcrowding. An instance may be quoted of an outbreak recently reported in the parish of Ochsenhausen, near Biberach, in the Suabian Highlands. The place contains some 3,000 inhabitants, and

the disease was first observed in the orphanage, where several hundred children are lodged. From that centre ophthalmia spread rapidly throughout the whole village, until practically every house was invaded. More than that, several adjoining parishes, some of them said to have not the slightest communication with Ochsenhausen, have also been visited by the disease. A Government Inspector from Stuttgart reports that all the school children are affected, as well as most of the inhabitants under fifty years of age. A more typical picture of the havoc that may be wrought by the introduction of a case of trachoma would be hard to imagine. By all means let us exclude from the shores of Great Britain that most undesirable of all aliens—the trachomatous immigrant.

* * * *

THE International Congress of School Hygiene will be held at Nuremberg in April, 1904. All who are interested in the many important problems connected with school hygiene should make a careful note of this date. The work of the Congress will include the following subjects:—Hygiene of School Buildings, Internal Economy, Methods of Instruction, Relations between Master and Pupil, School Diseases, Defective and Backward Children, Out of School Life, and all that appertains generally to the welfare of teachers and of scholars. Clearly, there are many points of first importance to be discussed with reference to ophthalmic matters. It is to be hoped, therefore, that many ophthalmic surgeons will attend the Congress. There are in the United Kingdom several experienced men who add a wide experience of school life to a thorough knowledge of ophthalmology. Those who desire to contribute papers or to attend the Congress should communicate with Professor Hueppe, of Prague, or with Professor Bergenstein, of Vienna, two gentlemen who occupy a prominent place on the Organising Committee.

* * * *

THE interesting announcement of Sir W. J. Collins of "Leprosy in London," originally reported in the *British Medical Journal*, has found its way into the lay papers. Nowadays, journalists appear to take an absolutely morbid interest in all that concerns medical science. It is a tribute to the polymorphism of leprosy that the disease should have been detected at an eye hospital. There are no longer any special hospitals for lepers in the United Kingdom, which has happily wiped the slate clean so far as that preventible item of infection is concerned. Now and then a case of leprosy is reported to be under treatment at one of the large hospitals. In such patients the disease has been invariably contracted abroad. It is some-

what interesting to speculate whether a certain percentage of undetected cases may not be buried in the labyrinths of crowded London. In Sir William Collins' particular patient the leprosy assumed what is probably the commonest clinical form as affecting the eye, namely, a sort of nodular scleritis.

* * * *

It is simply astonishing to note the slowness of progress in the popular acceptance of scientific principles. Even when the British Government supplies the motive power its efforts are often curiously spasmodic and unequal. Take the case of vaccination, the enlightened compulsory enforcement of which was officially adopted and officially abandoned within the limits of the Nineteenth Century. To initiate that kind of legislation meant an immense amount of courage as well as of force of conviction concerning the efficacy of vaccination. Now contrast the attitude of the Government which has forced the Midwives' Bill upon the people in the teeth of the protests of a most powerful section of the medical profession. From a scientific point of view, the prevention of ophthalmia neonatorum amongst the poor of the United Kingdom was brought within reach of the administration. That step would have connoted the prevention of a great total of the blindness met with in that class of society due to that particular malady. Why did not the Government Bill direct, or even advise, the universal adoption of Credé's method? But the Bill has come and gone, and this golden opportunity of reducing the ravages of a disastrous disease to a minimum has been allowed to slip by. Perhaps, when obstetrical physicians have decided this point, upon which ophthalmic surgeons have long ago been agreed, there may be some chance of amending this omission, so highly typical of insular methods.

* * * *

REVERTING to the First Annual Report of the Medical Officer of the School Board for London (already noticed in these columns), a curious statement occurs on page 3. The suggestion is made that "Blight" may possibly be a non-contagious affection. The whole passage reads thus: "Blight is a disease for which many children are excluded by the teachers. It is very doubtful how far these cases are contagious. The ordinary blepharitis, or even granular lids, are not matters of serious import as school infections." The statement as to the granular lids is so misleading and contrary to facts as to demand instant public investigation. "Blight" is happily a trivial affection, but it is none the less the result of a specific infection. The disease in nearly all cases is due to the Koch-Weeks' bacillus, and "blight" has been set up

experimentally by inoculation with that organism. How can Dr. Kerr, who drew up this most able Report, reconcile the above statement with the note of an outbreak which he appends in the following words: "One small outbreak (*i.e.*, of blight) of less than a score of cases of acute contagious conjunctivitis occurred among the infants and a few girls attending Christian Street School. It was easily arrested by prompt exclusion of the affected children." "Blight" cannot be contagious and non-contagious or doubtfully contagious. On the whole, it seems to us that this Report, excellent as it is, would be improved by the services of an expert ophthalmic sub-editor.

ANSWERS TO CORRESPONDENTS.

DR. THOMSON (Glasgow).—Proofs will be sent in due course.

DR. ROCHAT (Utrecht).—Thanks. Such an article will be most acceptable.

DR. ROLLET (Lyon).—The exchange has been duly effected.

DR. L. BUCHANAN (Glasgow).—The clinical note will appear in an early number of the *Ophthalmoscope*.

SPECIALIST.—We cannot open our columns to a discussion such as you suggest.

MESSRS. DOUMERGUES (Paris).—A private communication will be sent.

DR. T. R. HAMILTON (Adelaide, S. Australia).—Your kind offer is now under consideration.

DR. A. G. BARNES (Philadelphia).—A careful note has been taken of the contents of your letter.

A.P.S. (London).—We do not report meetings of Scientific Societies. Communications, however, are abstracted, as published in *Transactions, Reports, &c.*

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THE OPHTHALMOSCOPE.

A MONTHLY REVIEW OF CURRENT OPHTHALMOLOGY.

VOL. I.—No. 5.]

NOVEMBER, 1903.

[ONE SHILLING.

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ORIGINAL COMMUNICATIONS.

ON THE TREATMENT OF THE MORE SERIOUS SYPHILITIC DISEASES OF THE EYE.*

BY DR. A. DARIER,
OF PARIS.

EYE diseases, when of recent and undoubted syphilitic origin, are, as a rule, quickly and surely cured by the most commonplace mercurial treatment. There exist, however, malignant forms (as is often the case in hot climates) or chronic forms that have been treated just long enough to set up mercurial tolerance without obtaining complete cure. These forms of disease lead little by little to complete blindness. Then, there are certain eye affections serious in themselves—as, for example, irido-choroiditis, neuro-retinitis, or chorio-retinitis accompanied by vitreous opacities.

Neuritis or papillitis is often rapidly curable when it is clearly of syphilitic origin and treated early. It is not the same in optic atrophy of medullary origin. Although *tabes dorsalis* is admittedly of syphilitic origin, yet mental reservations must be made in treating that disorder. For my own part, I believe that we should obtain more cures, at all events in the early stage, if mercurial treatment were applied more

* A paper read at the Annual Meeting of the *British Medical Association* at Swansea, July, 1903.

systematically. It is possible that in the case of affections reported incurable we may some day obtain good therapeutic results by the intra-venous, sub-arachnoidal, or epi-dural injection of soluble mercurial salts.

It is certain that the method whereby mercury is given has great importance in the treatment of syphilis. There is, however, one thing still more important, namely, that the amount of the drug absorbed must be sufficient to bring about the desired therapeutic result as quickly and as surely as possible, with the minimum of toxic effect or of super-saturation, complications that make the continuation of treatment impossible.

No method of administering mercury allows of such exact control as that by intra-venous injection, inasmuch as absorption and elimination occur with remarkable regularity, provided the emunctories are healthy and functionally active. It is not quite the same as regards subcutaneous injections (however soluble the salts chosen), because resorption takes place more or less slowly according to the parts selected for injection and the density of the liquids employed. If the injections are repeated frequently, accumulation may therefore occur, and exact control is thereby rendered difficult or actually impossible.

One of the first, I insisted upon the necessity of recognising what I have ventured to call the "reactional limit" as regards each individual of the mercurial preparations. The clue to this reaction is furnished by the initial sign of mercurial intoxication, such as abdominal pain, colic, or diarrhoea, with or without bloody stools.

One must always keep the "reactional limit" in view, and make patients watch for its advent. It tells us the maximum dose that can be administered, and informs us as to the degree of permeability of the kidneys and the susceptibility of the intestinal tract.

The method of using intra-venous injections of aqueous solutions of the cyanide or biniodide of mercury which I recommend, is as follows: I inject, according to the weight and strength of the patient, from $\frac{1}{2}$ to 1 centigramme of the mercurial salt, and augment the dose daily little by little until some degree of colic is experienced by the patient. I then reduce the dose somewhat, but again increase it after the lapse of several days. I thus reach a point when I am able to inject 2 or 3 centigrammes of the cyanide or biniodide of mercury into the system.

With regard to formulæ, I recommend a 1% solution of mercury cyanide in an 0.75% saline solution. Dose 1 cc. to 2 cc. The biniodide is also used in a 1% watery solution containing 2% of sodium iodide. Dose 1 cc. to 3 cc.

If improvement in the eye symptoms is very pronounced, I practise fewer injections—at first, every other day, and, later, every third day—but I do not discontinue them altogether until long after.

Thirty to forty injections are usually needed for a first series. A little gingivitis and salivation are then nearly always present, especially amongst persons whose denture leaves something to be desired. A month's cessation of treatment, spent amid good surroundings and combined with ample food, massage, douches, and so forth, is always desirable before undertaking a fresh series of injections, such as must be made for the more serious syphilitic affections of the eye. After the interval mentioned above, I often practise about a dozen hypodermic injections of pilocarpine, spread over a month, before again resorting to another series of mercurial injections.

Potassium iodide I rarely prescribe for specific lesions of the deeper membranes of the eye, although it is quite otherwise as regards muscular paralysis and more especially osseous lesions. In that respect I am in accord with M. Abadie and many other authors, who attribute to the drug in question a harmful action in irido-choroiditis and similar affections.

We have all often seen specific lesions of the eye go from bad to worse, year in and year out, despite the prolonged use of mercury. These cases are "the mere despair of surgery," to quote Shakspeare's words. However, the usual reason for such failures is that treatment is not pursued with the rigour demanded by the occasion. On the appearance of the most trifling salivation or intestinal derangement, or even simply because the patient's appetite fails, the medical attendant allows himself to waiver, and suspends the treatment, or replaces it by potassium iodide, a medicament that now and then in such cases does more harm than good.

Speaking for myself, I have observed many cases of this kind, but I shall content myself by quoting one only at length. The facts were as follows: The wife of a medical practitioner had suffered for ten years from a bilateral irido-choroiditis, associated with many floating bodies in the vitreous humour. During these ten years, many kinds of treatment had been employed. The list would be too long to quote *in extenso*, but I may mention inunctions, numerous subcutaneous injections, some sub-conjunctival injections, and, of course, potassium iodide. An iridectomy had also been performed upon the left eye, but had done no good. In short, when this patient was referred to me by a provincial ophthalmic surgeon, the L.V.=p.l., and the R.V.=1/20, or just sight enough to guide herself. I submitted Mrs. ——— to a methodical and severe course of mercurial treatment. After

35 intra-venous injections of 2 centigrammes of cyanide of mercury in six weeks, and six injections beneath the conjunctiva of each eye, there was an improvement in sight—slight, it is true, but enough to allow one to hope that a further gain would result.

You have perhaps noticed that during an intensive mercurial treatment, improvement fails to manifest itself until some time after the termination of the course. This was the case in Mrs.———, who, to her great delight, found at the end of a month that she was able to write, so much had her sight improved. After a second month—during which 10 injections of pilocarpine were practised and some periorbital inunctions of mercurial lanoline were made—the patient came to me three months later able to read, to write, and to tell the time by the church clock. Nevertheless, I made a fresh series of 30 intra-venous and 10 subconjunctival injections, followed after a month's rest, by some injections of pilocarpine. This second "therapeutic cycle" extending over some three months failed to improve the eye that had been operated upon, but it assuredly consolidated the cure of the other eye, of which the sight had become normal, despite the existence of numerous foci of choroiditis. The vitreous opacities had disappeared from the left eye, but were still numerous in the right eye. The cure has remained stationary upwards of a year. All the same, the patient will have to be watched carefully, and be subjected to a series of intra-venous or subconjunctival injections from time to time.

What part did the subconjunctival injections play in the above cure? The question is difficult to answer, but a long experience has convinced me that the methodical combination of the two modes of applying mercury—that is to say, the subconjunctival and the intra-venous—is the most certain way of bringing about a speedy cure.

Two years ago, I extolled before the Section of Ophthalmology, at the Cheltenham Meeting, the good effects of local treatment by subconjunctival injections. To-day the importance of local therapeutics, even in general medicine, tends more and more to demonstrate its undoubted power. This is also shown by the brilliant results obtained by local injection in certain forms of arthritis and gummata, of which instances were recently recorded at the Cairo Congress by Professor Bouchard.

To resume: in grave syphilitic lesions, which have proved rebellious to treatment, before abandoning hope, one should institute an intensive and systematic course. With this end in view, nothing succeeds more surely and with less danger than the intra-venous injections, augmented daily in strength

until the point of physiological toleration has been reached. When 12 or 15 intra-venous injections have been made, the therapeutic effect can be potently augmented by performing every two or three days, turn by turn in each eye, subconjunctival mercurial injections. By these means one sometimes obtains unexpectedly good results, although for that, 30 to 40 intra-venous injections and a dozen subconjunctival injections must be made. Some improvement of sight generally comes on during the course, but it becomes much more marked after a period of rest. In order to clinch the cure, I usually make, after a month's rest, a series of pilocarpine injections. All of this constitutes, in fact, a kind of "therapeutic cycle," which should be repeated two or three times in the year.

THE CORNEAL LESIONS OF ACQUIRED SYPHILIS.*

BY SYDNEY STEPHENSON, M.B.

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NOWADAYS it will, I think, be generally conceded that acquired syphilis may affect the cornea primarily in two different ways : first, under the guise of an interstitial, diffuse, or parenchymatous keratitis ; secondly, as a true keratitis punctata, first described by Mauthner (Zeissl's *Lehrbuch der Syphilis*, p. 279). The latter form must be sharply differentiated from ordinary keratitis punctata, which we now recognise as merely a sign of inflammation of some part of the uveal tract—iris, ciliary body, or choroid, as the case may be. Mauthner's punctate keratitis, on the contrary, is a primary, specific affection of the cornea. It is characterised by groups of circumscribed, greyish spots, lying at various depths in the substantia propria of the cornea, absent or ill-developed episcleral injection, rapid development and equally rapid disappearance. The iris is not involved in the morbid process. The punctate dots are ascribed by Mauthner to a localised gummatous infiltration of the cornea. I have failed to find any instance of Mauthner's punctate keratitis described in British ophthalmological literature, but the following is a case in point.

Arthur W—, aged 29 years, contracted primary syphilis towards the end of April, 1895, and developed ulcers in his throat and a roseolous rash, some two months later. He was treated with mercury for about one year. I saw the patient in May, 1899, *i.e.*, about four years after the initial lesion. The sight of one eye had been defective for a few days, and the eye itself had felt rather uncomfortable. V.=6/18. T.n. A considerable number of

* Read at the Annual Meeting of the *British Medical Association*, at Swansea, July, 1903.

tiny, grey spots were scattered deeply in the substance of the cornea, the epithelium of which showed no changes. The eye flushed up under examination, but there was otherwise no redness. Iris not involved. The corneal spots disappeared, and vision became normal, after about six weeks' treatment with mercury and chalk, gr. i thrice a day.

It is comparatively recently that the connection has been recognised between acquired syphilis, on the one hand, and interstitial keratitis, on the other. Thus, in his authoritative work *On certain Diseases of the Eye and Ear consequent on Inherited Syphilis* (published in the year 1863), Mr. Jonathan Hutchinson comments upon "the entire absence of interstitial keratitis from the rôle of tertiary symptoms of acquired syphilis" (p. 221). After this lapse of time it becomes perhaps a little difficult to say who first pointed out the relationship between the two conditions of acquired syphilis and interstitial keratitis. But in 1873 Fournier (*Leçons sur la Syphilis chez la Femme*) cited cases where the eye disease was consequent upon acquired disorder. As regards this country, the first case of the kind was reported by Wordsworth in the year 1876 (*Royal London Ophthalmic Hospital Reports*, v. IX, pt. I, p. 51). The patient, a woman aged 25 years, manifested an intense bilateral keratitis, together with undoubted symptoms of acquired syphilis. The upshot of the case—contrary to the general rule—appears to have been bad. A couple of years later, M. J. Symons (*Lancet*, 1886), reported a similar case in a man, aged 29 years, who had contracted syphilis eight years earlier. Both eyes were affected; but the most meagre details are given of the exact clinical condition. In 1892 William Lang (*Trans. Ophthalmological Society*, vol. XII., p. 74), described an unusual case of this kind, where a unilateral keratitis followed some fourteen months after a chancre of the ocular conjunctiva of the same eye. In 1897, Henry Juler (*Lancet*, December 18th, 1897) gave details of a bilateral keratitis due to syphilis acquired by a young married woman, and in the following year the same writer reported a second case (*British Medical Journal*, August 20, 1898), also in a married woman, 33 years of age. The left eye of this patient became affected with interstitial keratitis, twelve years after the primary sore on the genitalia, and the corneal mischief had been preceded by irido-cyclitis and choroiditis of the same eye. In 1897 A. Maitland Ramsay (*Glasgow Medical Journal*, February, 1897) reported the case of a woman, aged 32 years, who presented a typical interstitial inflammation of one cornea, twelve years after the primary specific lesion. The other eye became involved, but the outcome of the case appears to have been favourable. Lastly, in the year 1899, J. B. Lawford (*Trans. Ophthalmological Society*, vol. XX., p. 67) made the most important contribution to the subject

that had yet appeared in British literature, inasmuch as he published notes of no fewer than five cases of interstitial, non-ulcerative keratitis in patients who were the subjects of acquired syphilis. It is noteworthy that the disease ended favourably, and was unilateral in every one of Lawford's cases.

A good many cases, now amounting in all to about sixty, have been published on the Continent and in the United States of North America. Indeed, some authors have managed to collect a relatively large number of observations, as, for example Alexander¹ (13 cases), Trousseau² (11 cases), Ancke³ (10 cases), and Haltenhoff⁴ (5 cases).

The following case (for permission to publish which I am indebted to Mr. R. W. Doyne) has recently fallen under my immediate observation.

Henry S—, aged 32 years, a barman, first attended the Royal Eye Hospital, Southwark, on March 27th, 1903. His personal history is as under: twelve years ago he sustained a blow over his right eye, an accident followed by ulceration. He was ill for about six weeks, but afterwards recovered almost full sight in the affected eye. The latter remained without alteration until fourteen days before he attended the hospital, when it became rather painful, got red, watered, and its sight failed. The patient admits gonorrhoea but denies syphilis. However, he has been married for seven years, and has one child, aged 5½ years. Since the birth of that child, his wife has had three miscarriages. Eight months ago, his throat became bad, and he remained under medical treatment on that account for several weeks.

Present state.—The patient presents no stigmata of hereditary syphilis. There has been destruction of the anterior pillars of the fauces, and of the neighbouring parts, and a small hole in the palate lies at the root of the uvula which has been partially destroyed by phagedena. R.E.—slight photophobia, lacrymation, and ciliary redness. An adherent leucoma, of circular outline, lies close to the periphery of the upper-inner quadrant of the cornea. The nasal half of the cornea is clouded by interstitial opacities, but the anterior epithelium is intact and not stippled. V.=fingers. L.E.—(examined with a dilated pupil) shows no changes. V=6/5.

Treatment and Progress.—The inflamed eye was shaded, and atropine drops (grs. 2 to the ounce) were used three times a day. April 3rd. R.V.=hand reflex. Cornea very cloudy especially in the central region. No great amount of pain, but the eye is markedly congested. T.-I. Pil. Hydr. c. Cret. gr. I. t.d. April 17th. Eye much less red. No pain. Pil. Hydr. c. Cret. gr. I. four times a day. April 24th. The right eye is now almost free from redness. Some mercurial ulceration is at present at the roots of the lower incisor teeth. May 1st. Slight ulceration and soreness about the incisor teeth. R.E.—No pain and but slight lacrymation. No redness. The cornea is much clearer and the pupil may be recognised as semi-dilated. T.n. V.=fingers at 0.5 metre. May 8th. R.E. Free from all redness and cornea clearing rapidly. V.=3/60. June 5th. R.E. No redness and but trifling photophobia. T.n. The peripheral parts of the cornea are now perfectly clear so that the surface-markings of the iris are visible. Some faint interstitial opacities, however, remain continuous with the leucoma adherens mentioned above. V.=6/12. June 26th. The cornea is clear, with the exception of a small tongue of opacity continuous with the adherent leucoma lying near the upper-inner part of the limbus. T.n. V.=6/9.

1. Alexander.—*Syphilis und Auge*, Wiesbaden, 1889. .

2. Trousseau.—*Annales de dermat. et de Syph.*, 1895, p. 201.

3. Ancke.—*Centralbl. f. prak. Augen.* 1885, p. 360.

4. Haltenhoff.—*Bull. et Mém. de la Soc. franç. d'ophtal.*, 1887, p. 175.

Remarks.—The proof of syphilis in the foregoing case depended wholly upon circumstantial evidence, of which the main points were (1) that the patient's wife had had three consecutive miscarriages following the birth of a healthy child, and (2) that the patient himself had suffered from a destructive ulceration of the fauces and neighbouring parts of the oropharynx, which could scarcely be due to any cause other than syphilis. Then there is another important point, namely, (3) that the features of the corneal inflammation conformed with those observed in acquired syphilis, inasmuch as they comprised (a) one-sidedness, (b) patchiness, (c) prompt response to specific treatment, and (d) favourable termination.

From a study of the literature, I conclude that this form of keratitis is not so uncommon as the comparatively few cases placed on record might lead one to believe. This view is borne out by the figures adduced by certain authors, which have been incorporated in the following table:—

Name.	Reference.	No. of Cases.	Due to Acquired Lues.	Per-centage.
Jakolewna	Zurich Thesis, 1873.....	63	2	3.1
Dier	Zeitschr. f. Augenheilk., May-June, 1889	—	—	1.9
Haltenhoff	Bull. et Mém. de la Soc. franç. d'Ophtal., 1887	66	5	7.5
Pfister	Klin. Monats. f. Augen., 1890, p. 114 ...	130	—	3.8
Ancke	Centralbl. f. prak. Augen., 1885, p. 360...	100	10	10.0

These figures are not large, but, so far as they go, they tend to show that from 1.9 per cent. to 10 per cent. of all cases of interstitial keratitis are due to acquired syphilis.

It is more than merely probable that acquired syphilis is sometimes overlooked as a cause for interstitial keratitis. One is a little apt to forget that acquired, extra-genital syphilis is not unknown amongst children. The mistake is not so likely to happen in adults, in whom the existence of a unilateral, non-ulcerative keratitis would naturally lead to enquiries as to the existence of the acquired disorder. The following is a case in point.—

A girl 12 years of age was brought to me a few years ago with a patchy parenchymatous keratitis affecting one eye. The family history did not suggest syphilis, neither did the girl herself manifest any obvious signs of that diathesis. No evidences of tubercle were forthcoming. Under the influence of liberal doses of mercury with chalk the patient made an astonishingly quick recovery. This fact (so different from what is usually seen in the more common form of interstitial keratitis) led me to extend my enquiries. I then found that when a baby two or three months old the patient had developed an obstinate sore upon the right upper eyelid and that this had been followed after the lapse of some weeks by a widely-spread eruption

cutaneous ulcerations and a state of prolonged debility. The keratitis in this case was therefore probably due to acquired syphilis.*

Interstitial keratitis is generally considered to be a very late secondary or a tertiary event of syphilis. Comparatively few cases are recorded as occurring under two years from the primary infection, and three only within one year from that event. In the cases collected by me, the average period works out at 10.8 years: the longest interval was in a case of Ellett's (*Ophthalmic Record*, 1900, p. 283), where it amounted to twenty-three years, and the shortest, three weeks, in a case reported by Lowensohn (*Jahresbericht der Ophthalmologie*, 1902, p. 532). The latter case is interesting. It was one of bilateral keratitis, in a man aged 26 years, where the corneal affection co-existed with a hard chancre on the prepuce, i.e., with the symptoms of primary syphilis. In a case of Lawford's, again, a unilateral keratitis followed 4½ months after a primary syphilitic lesion of the right lower eyelid, and the patient at the time suffered from a "sore throat" (*loco citato*). But the specific lesions commonly noted in association with interstitial keratitis include oro-nasal ulcerations, palmar and plantar psoriasis, gummata of the skin, periosteum, and muscles, ozæna, deafness, ptosis, facial paralysis, ecthyma, vitreous opacities, and chorio-retinitis, in short, those symptoms that are usually included under the name "tertiary." The interstitial keratitis of acquired syphilis, then, is shown to be a tertiary phenomenon by the period at which it generally occurs and also by its associations in the shape of other tertiary lesions.

Some authors, as, for example, Valude (*Annales d'Oculistique*, January, 1897), have claimed that this form of keratitis is, from the clinical point of view, especially distinguished by the fact that it is not so apt to be vascularised as the form associated with the inherited disorder. This claim may be true, broadly speaking, but in my own case, the affected eye was at one stage extremely vascular, while the existence of a definite "salmon-patch" has been noted by Lawford (*loco citato*), and by Fritz Mendel (*Centralbl. f. prak. Augen.*, January, 1901, p. 10).

* Mauthner (*loco citato*) met with a case of interstitial keratitis in a suckling that had contracted syphilis from the nurse.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

THE X-RAY TREATMENT OF TRACHOMA.

BY STEPHEN MAYOU, F.R.C.S.

PHOTOTHERAPY at the present time is still "on trial" with regard both to the best form in which it should be applied and to the diseases for which it is most suited; but in whatever form it is used the changes in the tissues seem to be essentially those of increased stimulation.

Of the various forms which can be used in the treatment of ophthalmic diseases X-rays at present hold first place, since it has yet to be proved that the emanations which proceed from radium or a modified form of the Finsen light can be utilized.

One year and a-half ago, whilst watching the clinical and histological changes which take place in rodent ulcer and lupus of the eyelid under X-ray treatment and finding no serious injurious effect on the globe, it occurred to me to apply this form of tissue stimulation to other diseases of the eye, more especially to trachoma and corneal opacities. With that idea one eye of a severe bilateral trachoma was exposed in a manner somewhat similar to that described below; after 24 sittings the disease cleared up, and encouraged by this case some 15 others were treated with good results; since that date the treatment has been adopted by many observers with, on the whole, satisfactory results.

The method adopted is as follows:—the patient is seated in front of a focus tube, the head being supported by some convenient form of rest; the upper lids are then everted and either held so by the fingers or by a Reid's clamp. If the fingers are used, they must be protected by bismuth ointment and cotton gloves, a clean pair being kept for use with each patient. If there is no pannus the cornea is covered by pushing up the lower lid, but in bad cases of pannus the cornea is exposed. The distance of the eye from the anode should not be more than 9 inches; a self-regulating tube having a spark-gap of 4 inches and a current of 6 amp. is most suitable. Four minutes' exposure is given for six successive days, a week's rest is then given, and if no reaction is set up the patient is exposed 3 to 5 times a week until there is a slight increase in the photophobia, which shows the patient is beginning to react.

About this time the granules generally begin to disappear from the lids; exposures are carried out until they disappear.

When the granules have disappeared all treatment must

be stopped, as it requires some weeks for the infiltration set up by the X-rays to settle down, and it is difficult to tell whether the disease is absolutely eradicated, as the lid remains injected for some time after treatment has ceased.

The final result to the lid is most satisfactory. Instead of the white, puckered conjunctiva resulting from other methods, a supple, non-contracted, non-scarred conjunctiva, with no obliteration of the fornices, unless they are already gone before treatment, is gained, similar to the soft supple scar in the skin produced by this form of treatment in rodent ulcer as compared with the dense cicatrix of excision.

As regards the effect on the pannus, it often clears with great rapidity, especially if recent, and it is a common thing for patients to say they see more clearly almost from the first exposures. But even dense corneal opacities will often clear considerably, and in one case of extensive destruction and cicatrization of the cornea following 30 years' trachoma, in which at the commencement of treatment the patient could only see shadows, in two months she could count fingers three feet away.

Another peculiar point is the amount of exposure required by different patients. Sometimes the granules begin to disappear from almost the first exposure; others require eight to ten or more exposures before showing signs of reaction.

In cases which react only slightly the effect may be increased by the additional application of some one of the other forms of irritant, such as copper sulphate, but great care must be taken in applying them as they produce much more reaction than when applied to similar cases of trachoma which have not undergone X-ray treatment.

As regards the cases suitable for treatment, the most satisfactory are the chronic cases, and of course the earlier they seek treatment the more rapid and satisfactory the result; these patients will also stand more frequent exposures than any others. Acute diffuse infiltrations with thickening of the lids and much photophobia require more careful exposures, extending over a much longer period. Old-standing cases in which the lid trouble has almost disappeared, but in which there is much opacity of the cornea, will often improve considerably under exposures at long intervals after the first reaction, which should be mild.

The chief advantages of the treatment are:—

1. It is painless.

2. There is considerably less deformity of the lid after treatment.

3. The pannus clears more thoroughly.

If a trachoma be examined microscopically whilst under-

going treatment with copper sulphate, it is found that the nodules in the conjunctiva become surrounded by a dense capsule of fibrous tissue, which seems to shut off the nutrition of the nodule in much the same way that a tuberculous nodule becomes encapsulated; hence the excessive amount of scarring which is produced after treatment by this method.

By the application of X-rays an enormous leucocytosis is set up, which directly invades the nodules, leading to their disintegration with much greater rapidity and without the excessive production of scar-tissue.

Coming to the effects of X-rays on the eyes, it is noticeable that in cases of rodent ulcer in which the eyelids have been destroyed by the disease, and in which the eye has been directly exposed to the action of the rays for periods of 6 to 12 months, 3 to 4 times a week, for 10 minutes each sitting, no serious injurious effects have been produced, the vision remaining the same throughout the treatment, although an intense conjunctivitis was set up. This conjunctivitis is also seen amongst workers with X-rays, and is easily prevented in them by the use of lead glass spectacles.

X-rays have no bleaching effect on the visual purple.

Some thinning of the eyelashes, due to inflammatory changes taking place around the base of the hair follicles, occurred in a few of the cases treated.

PRELIMINARY NOTE ON THE PATHOLOGY AND DIAGNOSIS OF SPRING CATARRH.*

BY MAJOR H. HERBERT, F.R.C.S.

I.M.S.

In this report I have to deal only with cases of spring catarrh observed in natives of India. Possibly in India the tissue changes in this affection are at times more advanced than in temperate climates, otherwise it would appear strange that some of the features described below have not already received notice. Yet any differences that may exist are essentially in degree and not in kind.

I wish chiefly for the present to draw attention to a remarkable infiltration of the affected tissues, both ocular and palpebral, with eosinophile leucocytes. The only published observation on this point with which I am acquainted is by Schlub, who noticed granular round or oval cells making up the chief mass of the infiltration in the tissues. He does not appear to have recognised their true nature. By appropriate

*Paper read at the Annual Meeting of the British Medical Association
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staining of tissue fixed in Flemming's solution, or in saturated corrosive sublimate solution, these cells are at once seen to be eosinophile corpuscles. And the greater the infiltration present the higher is the proportion of eosinophiles among the cells seen ; that is to say, the chief variable element in the cells lying in the tissues is the eosinophile cell. Such an infiltration appears to be a very rare occurrence in any part of the body ; I only know of it having been observed in some cases of pemphigus of the skin. The infiltration is only very marked in the more irritable stages of the affection. The cells lie especially near the free surface of the elevations, in the epithelial layer as well as below it. They are more uniformly diffused in the palpebral papillæ than in the limbus thickenings, where they tend to be collected mainly about certain points. Even in palpebral tissues this tendency to localization is seen to a small extent ; the epithelium is thinned at the most infiltrated parts, and here the wandering cells, mostly eosinophile, are passing through in large numbers to the surface. In the ocular swellings the shedding of epithelium and its infiltration with eosinophiles may reach a stage further, so that actual breaches in the epithelium are produced, in and upon which the cells which are pouring out may be seen heaped up. The presence of eosinophiles in the exudation may be useful as a ready means of diagnosis. There is ordinarily very little exudation in cases of spring catarrh, but it is quickly induced by slight irritation of the surface. The mere exposure of the upper tarsal conjunctiva necessary for a very complete examination may quickly produce a thin layer of mucoid or membranous exudate on the surface. And this freshly induced exudation is best suited for microscopical examination, owing to the fact that the eosinophile cells very quickly break up. Lately I saw two cases when this means of diagnosis was of some use. In one of them I had happened to see the patient at an earlier period with well-marked ocular swellings, but at the time to which I refer in each patient the only ocular remains of the affection were traces of irregular marginal corneal opacity, and of pigment in the neighbouring conjunctiva. In the upper tarsal conjunctiva there were only fine papillæ, such as are commonly seen in chronic simple conjunctivitis, and a barely perceptible trace of superficial paleness, which appeared suggestive. In each case a very large number of eosinophiles was present in the exudation and in bits of excised palpebral tissue.

I have sections of limbus thickenings showing not only the breaches in the epithelium, above mentioned, but also minute vesicles situated in the epithelium layer, and containing eosinophile and other wandering cells. The contents of these

vesicles, as well as the bare spots, stain to some extent with fluorescein, and are then readily visible clinically if magnified by the corneal *loupe*. They are found mostly in small groups.

In the half-dozen cases of spring catarrh in which I have examined the blood there was an increase of eosinophiles to from 10 to 20 per cent. of the total leucocyte count. This in itself is a common occurrence in natives of India, due to the harbouring of nematode parasites in the intestine or elsewhere. But, taken with the presence of the eosinophiles in the conjunctiva, it must be taken into account in considering the pathology of spring catarrh.

As regards the eosinophiles in the exudation, ordinary inflammatory exudation contains extremely few of them; one may fail to come across them at all in examining a smear-preparation. They may be seen, I believe, in large numbers, in the pus thrown out around a guinea-worm lodged in the tissues; and Dr. Powell, of Bombay, told me that he once found them very numerous in a urethral discharge. He examined many examples of gonorrhœal pus afterwards, but never came across anything similar.

Finally, in one of the sections shown, stained with polychrome methylene blue, there are intra-cellular bodies which may possibly be parasites. Some of them, at least, are very different from the hyaline bodies that are to be seen in trachoma and other chronic inflammations.

STRABISMUS FIXUS.

By E. DONALDSON,

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In the form of squint called by Von Græfe "strabismus fixus," voluntary movement and passive mobility of the eyeball are impaired, and there is often a high degree of convergence. The immobility results from an attachment of the eyeball to the orbital wall which is probably congenital, as suggested by Professor Snellen. There is one other feature of these cases that I wish to mention, *viz.*, the tendency of the convergence to become greater as life advances. I have noted this tendency in three cases. In one of my patients the deformity became so great, that at about the age of 70 years the outer edges of both corneæ were only just visible at the inner canthi. Dr. Fisher in *Ophthalmic Record*, 1898, has recorded a case in which the eyes became much more convergent after influenza.

It is not easy to account for this late increase in convergence. It may arise from greater weakness of external, and preponderance of internal rectus, as well as from contraction of the tissue between eyeball and inner wall of orbit. For a better know-

ledge of this form of strabismus we require *post-mortem* examinations, and detailed clinical histories. The following case is the third I have been able to examine carefully.

An unmarried woman, *ætat.* 50 years, in good health, was seen on 7th September, 1903, on account of a high degree of squint in the left eye. The family history threw no light on the case. She stated that the left eye was, as long as she could remember, turned in a little, and that it turned in much more after a severe illness five years before I saw her. On examination, I found rotatory nystagmus in both eyes. The left eye was rotated inwards, so that the pupil was almost hidden behind the inner canthus. Some voluntary movement of this eye was possible, but with no effort could she bring cornea into the middle of the palpebral orifice. Near the outer canthus, the globe presented a bluish coloration, as if from thinning of the sclerotic. She could count my fingers one foot off when right eye was covered. On September 10th, after cocaine was instilled, patient was asked to look well to the left. Then an attempt was made with fixation forceps to rotate the left eyeball still further out, but this was found to be impossible. I did not divide internal rectus and its attachments, as I do not think this procedure is of any value in these cases. Right Eye: ophthalmoscope showed high myopia, and a posterior staphyloma. Vision with—16 D. was $\frac{5}{18}$. The external rectus had good power, and movement in all directions was free.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Kipp, Charles J., and Alt, Adolf.—A case of papillomatous epithelioma of the sclero-corneal junction. *The American Journal of Ophthalmology*, February, 1903.

A yellowish-white flattish tumour, about 15mm. in diameter, was found by Kipp to be firmly adherent to the sclera and cornea of a man, aged 57 years. The growth had existed for about six months. The affected eyeball was removed. About a month later, the patient had a "fit," soon became insane, and eventually died from dysentery some four months after the operation. A pathological examination of the eye was

made by Alt, who found that the tumour was a papillomatous epithelioma, originating from the conjunctiva. Two points of histological interest were noted: (1) a new formation of vascular papillæ, springing from the conjunctiva, and (2) the enormous amount of epithelial tissue covering these papillæ. Alt concludes that the growth was at first a simple papilloma, which later assumed epitheliomatous characters.

Snowball, Thomas.—Ossification of the Choroid. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

This highly technical communication, to be appreciated at its proper worth, must be read in the original.

Worouoff, A. T.—The Micro-Physiology of the Lacrymal Gland. *Russke Vratch*, May 3, 1903.

In view of the prevailing contradictory opinions on this subject, the following original data obtained by A. T. Worouoff are important: The gland shows a distinctly alveolar structure, consisting of round or oval alveoles, lined with cylindric or cubic epithelium. The cells contain a central nucleus, and their structure appears to vary according to the state of the activity. When at rest the cell shows a clear homogeneous structure, while during secretion the protoplasm is darker and granular. Not all cells are resting or working together, there being a regular alternation, some doing duty for a time while others are recuperating.

American Medicine, August 22, 1903.

MacCallan, A. Ferguson.—Lymphangiectasis of Conjunctiva. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

MacCallan's patient, a lad aged 16 years, had presented a deformity of the left eye since birth. The lower conjunctival fornix was occupied by a subconjunctival tumour, the surface of which was studded by small vesicles, some containing blood and others a clear fluid. Similar material lay between the integument and the tarsus in both eyelids. The caruncle and the neighbouring ocular conjunctiva were thickened. There were, moreover, two pedunculated tumours beneath the upper lid. A small piece of the growth, examined pathologically, was found to be made up of a large number of widely-dilated spaces, lined with a single layer of endothelium. The trabeculæ separating these alveoli were richly supplied with blood-vessels and infiltrated with leucocytes. The epithelium covering the growth was of varying thickness, and the individual cells showed marked mucoid degeneration.

Huggard, William R.—Ocular accommodation and the apparent size of objects. *British Medical Journal*, September 12, 1903.

Huggard points out that one can at will alter the apparent size of objects by a voluntary change in accommodation. "Fixing the eyes on a distant object, I shut one eye, and then accommodated for near vision. The distant object at which I was looking immediately appeared to shrink."

Alt, Adolf.—Episcleritis and Scleritis. *The American Journal of Ophthalmology*, April, 1903.

Alt comments upon our ignorance concerning the essential nature and causes of episcleritis and scleritis, two conditions which he regards as essentially different. Amongst his own cases rheumatism and gout have been infrequent factors, and it is probable that tuberculosis and hereditary syphilis play a more important rôle in the etiology, at all events in young children, than either of the affections named. Acquired syphilis is a very rare cause. Alt confesses, however, that in many instances he has failed to identify the cause. A case of episcleritis examined pathologically by the author, showed that the conjunctival epithelium was thickened, and that the episclera contained enlarged lymph and blood-vessels and masses of round cells. The round cell infiltration extended into the superficial layers of the sclera. In deeper scleritis, there exists a considerable infiltration with round cells, in the superficial layers of the sclera, while these collections of cells often assume a round or oblong shape. The pressure thus set up leads to hyaline degeneration or necrosis of the scleral fibres, or of the cellular accumulations themselves. The underlying part of the uveal tract is usually inflamed. When the process subsides, the sclera has become thin, the blood-vessels obliterated, and the corresponding part of the uveal tract is so much infiltrated with round cells, that the boundary between the two layers can no longer be distinguished. The process finally entails atrophy and staphyloma of the affected parts; yet it may also lead to the formation of connective tissue, and so cause an hypertrophy of the sclerotic, such as we are accustomed to find in phthisical eyeballs. Giant cells have been found in deep scleritis, although the bacilli of tuberculosis have not yet been demonstrated. Syphilis could not explain the histological changes. Alt finds that the pain of scleritis yields to salicylates or aspirin. But neither of these remedies, nor mercury, nor potassium iodide will cure the disease. Subconjunctival injection of sodium chloride or mercurial salts has now and then a good effect, but may aggravate the malady. Pilocarpine, heat, cold,

and massage with yellow ointment, aristol, or salicylic acid are useful up to a certain point. Alt has had excellent results, especially in recent cases, from the inspergation of calomel. Adrenaline has been tried and found wanting.

Burnett, Swan M.—An exposition of the principles of refraction in the human eye, based on the laws of conjugate foci. *The American Journal of Ophthalmology*, May and June, 1903.

Harman, N. Bishop.—The innervation of the orbicularis palpebrarum muscle. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Harman examines the evidence for the view, current for some years, that the orbicularis palpebrarum muscle is innervated from the oculo-motor nucleus. He also criticises the theory from the standpoint of comparative anatomy, as exemplified in lemurs and sharks. As the result of his investigations, Harman concludes that the theory is untenable. Appended to the communication is a note upon the case of a woman, suffering from congenital ptosis, who exhibited movements of the effected eyelid in consonance with movements of the jaws. Such associated movements, according to Harman are not mere "freaks." On the contrary, they represent the revival or survival of ancient associated movements, and constitute a so-called atavistic anomaly.

Buchanan, Leslie.—Case of early formation of true bone in a shrivelled stump. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Ten weeks after an injury, the shrivelled stump of a lad's right eye was removed. Upon pathological examination by Buchanan, the eye was found to contain a moderately large mass of bone, surrounded by fibro-cellular tissue. Other centres of ossification, of smaller size, were found in a state of early development.

Johnston, R. H.—Papillomata of the Conjunctiva and Cornea. *Annals of Ophthalmology*, July, 1903.

Johnston remarks that reports of papillomata of the conjunctiva and cornea are rare. This is the more surprising since malignant neoplasms of the conjunctiva are not infrequent, a fact that leads him to surmise that in some cases growths, to begin with of papillomatous type, later degenerate into malignant epithelial tumours. With regard to the differential diagnosis between papillomata and epitheliomata of the conjunctiva, Johnston thinks that in most cases this is impossible at the commencement in the absence of a micro-

scopical examination. Age is no guide, neither is recurrence of the growth. In the later stages, however, absence of ulceration would speak for papilloma, since epithelioma invariably ulcerates unless removed by operation. Microscopical examination is invaluable at this stage.

Collins, E. Treacher, and Parsons, J. Herbert.—**Anophthalmos and Microphthalmos in a Chick.** *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A chicken, hatched in an incubator, was born blind. The eyelids were well formed, and on the left side there was a rudiment of an eyeball, but on the right side no such structure could be recognised. The head of the chicken was hardened in formol, decalcified, and embedded in celloidin. A series of sections were then cut in such a direction as to pass across the orbits. Briefly, the following appearances were noted. On the right side the eyelids and the conjunctival sac were well developed, the optic nerve, retina and pigmented epithelium were absent, *i.e.*, there was a non-development of the parts derived from the neural epiblast. A ring of cartilage, having striated muscle, fibrous tissue, and adipose tissue externally, and being filled with tissue resembling that of the choroid pigmented cells, fibrous tissue, blood-vessels, and nerves, was situated a little below the surface. These mesoblastic structures formed a nodule, to which the extrinsic muscles were attached, lying at the back of the orbit. As regards the left side, the eyelids and the conjunctival sac were normal; the cornea was small and the anterior part of the eyeball was much flattened; there was a cup-like sclera formed of hyaline cartilage; and a mass of fibrous tissue lay between the nerve and the scleral cartilage on one side. Bowman and Descemet's membranes were absent, and the substantia propria of the cornea was imperfectly developed. The lens lay in close apposition with the back of the cornea. The normal choroid ended in front in a much distorted ciliary body. The iris was imperfect below. "At the upper part of the eye the anterior part of the ciliary body, and what represents the iris turned backwards behind the lens, lying in close contact with its posterior surface for more than two-thirds of its extent. Behind the upper part of the lens there is, from before backwards, tissue like the stroma of the iris, pigment epithelium, and imperfectly formed retina, *i.e.*, retina in which its several layers have not become differentiated. Further down on the posterior surface of the lens the stroma or the iris ceases, and the pigment epithelium, much rucked, lies in direct contact with the lens capsule. The tissue-like undifferentiated retina passes into a single layer of unpigmented

cells, which continue up to the pupillary margin." The lens, very imperfectly developed, surrounded by a hyaline capsule. Retina well developed at the posterior part of the eye.

Where can the line be drawn between anophthalmos, on the one hand, and microphthalmos, on the other? In cases where the eye appears to be congenitally absent, careful examination—conducted, if necessary, under a general anæsthetic—will often bring to light the existence of a small, hard nodule in the orbit. The authors point out that the essential element of an eye is a nervous mechanism, which receives visual sensations and transmits them to the brain. They believe that when there is a complete failure in the development of this mechanism, as, for example, when the chiasm is absent, or when the optic nerve fails to enter the orbit, the case should be regarded as one of anophthalmos. On the contrary, if the eye is smaller than usual, and there is even an imperfect attempt at the formation of the nervous mechanism, the case is to be looked upon as one of microphthalmos. "This distinction," the authors write, "which we think is the only true one which can be drawn between these two conditions, is, unfortunately, one which can only be determined with certainty by a microscopical examination."

The communication concludes with a summary of the literature on anophthalmos.

Buchanan, Leslie.—Keratitis, and the special reference to the part played by the corneal corpuscles. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

The principal points brought out by Buchanan are two in number: first, that the corneal corpuscles play a very active part in inflammation of the cornea; and, secondly, that there is a definite sequence of events in the various types of inflammation, *i.e.*, the changes seen in the more severe forms of keratitis are the same as those seen in the milder, but they are carried to a greater length. Buchanan is strongly of opinion that in acute inflammation the cellular exudation is mainly derived from the corneal corpuscles.

Buchanan, Leslie.—A case of Mycosis of the Cornea. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Buchanan describes mycosis of the cornea, a rare condition of which only about sixteen cases are on record. The facts are as follows:—a man, aged 54 years, received an injury to one eye with a piece of straw fourteen days before he was seen by Buchanan. There was a small, deep ulcer in the lower outer part of the cornea, accompanied by hypopyon.

The ulcer became covered with a greyish, sloughy mass, and ultimately invaded the central region of the cornea. The eye was excised 56 days after the injury. Histological examination of the cornea showed that the slough-like mass consisted of necrotic corneal tissue, penetrated by a densely-felted mycelium. The growth appeared to be an *aspergillus*, although its exact variety could not be made out. "In the diagnosis the principal points are injury with something connected with agriculture, sloughy ulcer with hypopyon running a slow course, and the presence of a sharply-defined, greyish-coloured slough with a dry or dull surface. Culture experiments are necessary to establish the diagnosis and to identify the organism."

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Thomson, W. Ernest, and Buchanan, Leslie.—A clinical and pathological account of some of the injuries to the eye of the child during labour. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

This valuable communication deals with injuries to the eye of the child during labour. Thomson and Buchanan commence by reviewing the literature of the subject, most of which is foreign. They next describe the details of their own cases, six in number. Finally, they discuss each of the injuries that they have had the opportunity of observing, as under :

Traumatic Keratitis.—This appears to be a rare complication of assisted labour, and is probably due to direct pressure upon the cornea by the blade of the forceps. Three varieties are described. First, a diffuse temporary opacity, apparently due to œdema ; secondly, a diffuse permanent opacity, due to œdema in some cases associated with injury to the posterior elastic lamina of the cornea, and in others followed by inflammation ; and, thirdly, a permanent linear opacity, the result of rupture of the posterior elastic lamina and of the corneal lamellæ, with the subsequent formation of scar-tissue. The prognosis of these injuries must always be of a guarded character.

Hæmorrhages.—Hæmorrhages into various parts of the eye are frequently found, and since they are common in children born by normal labour, it follows that extreme pressure upon the head is not an essential factor in their causation. The authors believe that such effusions may result from increase of blood-pressure caused by obstruction to the placental circulation. "It is, however, possible," they add, "that sudden

relaxation of extreme pressure on the head at some period during labour, by allowing the full force of the blood to come suddenly into relaxed vessels, may give rise to hæmorrhages in the retina and choroid in certain cases."

Edema of the Retina.—This probably results from pressure upon the eye during a prolonged labour causing obstruction to the venous outflow.

Retroversion of Ocular Contents.—In one of Thomson and Buchanan's cases the lens and the vitreous body were found to be retroverted. The very severe pressure brought to bear upon the infant's head would scarcely suffice to produce such an injury. The authors believe that the cause of the lesion was torsion applied to the eye whilst the latter was strongly compressed in an antero-posterior direction.

Extrusion of the Eyeball.—Two instances of extrusion have fallen under the authors' notice. In one case the eyeball had left the orbit altogether, and was hanging on the cheek by the tendon of one rectus muscle alone, while in the other the condition amounted merely to a marked exophthalmos. In each case there was a well-marked depression of the cranial bones above the orbit on the affected side. The authors conclude that the eyeball is extruded by the cranial depression, and consequent narrowing of the cavity of the orbit at its posterior part. It is improbable, they say, that the eye could be torn out by the blade of the forceps without the lids being very severely injured.

Ramsay, Maitland—The Diagnosis and Treatment of Iritis.

Scottish Medical and Surgical Journal, May, 1903.

Ramsay affirms in this paper that iritis occurs in from 2 to 4 per cent. of all ocular diseases and is more common in men than in women, and more frequent in young adults. He then describes the symptoms and complications met with. The various forms of iritis are described in detail, syphilitic, rheumatic, and gouty. Iritis, he says, is a somewhat rare complication of gonorrhœal arthritis and tubercular arthritis. The special treatment of each form is then indicated.

Juler, Henry E.—A Clinical Lecture on Injuries of the Eye.

Clinical Journal, April 29, 1903.

This lecture was delivered at the Medical Graduates' College and Polyclinic on December 10, 1902. In it the injuries of the eye are fully described, and the appropriate treatment indicated.

Spicer, W. T. Holmes.—*Nævus of the Orbit ; evacuation of the Orbit after removal of the Eye.* *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A woman, aged 23 years, stated that one eye had always been more prominent than the other. The condition had become more marked after marriage—four years before coming under Spicer's care, the increase coinciding with each successive pregnancy. There was some proptosis of the left eye. The lids of that eye were soft and full, had a bluish appearance, and many of their superficial veins were distended. On deep pressure, the mass in the orbit "felt like a bag of bones." $V. = \frac{6}{34}$; fundus normal; movements not impaired. Electrolysis was carried out twice at an interval of several months. Twelve months after the last operation, there was considerable proptosis, and the orbit contained two large lumps, together with a softer swelling, which could be emptied on pressure. An incision made into the former from the conjunctiva, yielded a quantity of porter-coloured blood. The cornea became perforated, and the eye was enucleated some twenty-one months after the patient first came under observation. Notwithstanding the operation (perhaps even in consequence of it), the orbital growth became larger, and it was eventually removed together with the contents of the orbit. The operation, which offered no practical difficulties, was accompanied by trifling hæmorrhage. The tumour, when examined pathologically by E. W. Brewerton, was found to be a cavernous angioma, measuring about two inches in diameter.

Collins, E. Treacher.—*A case of Favus of the Upper Eyelid.* *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Collins found four circular patches on one upper eyelid in a lad, aged 16 years. They consisted of a dry crust, the centre of which was depressed and black, while the slightly raised margin was of a sulphur-yellow colour. The patches measured from 4 mm. to 7 mm. in diameter. The surrounding skin was reddened. A portion of one of the crusts, when examined microscopically, showed a branching mycelium. A growth of favus (somewhat impure) was obtained on maltose-agar.

Villard, H.—*Traumatic dislocation of the orbital lacrymal gland.* (*Luxation traumatique de la glande lacrymale orbitaire.*) *Revue Générale d'Ophtalmologie*, 31 mai, 1903.

Villard, of Montpellier, prefaces his paper by pointing out that the lacrymal gland, by reason of its anatomical position, is little exposed to injury, excepting perhaps such as may be inflicted by a cutting instrument or a bullet wound. With

regard to traumatic dislocation, literature contains four or five observations only. Villard relates a case, the salient facts of which are as follows :—a lad, 8 years of age, whilst playing in a cellar, fell into an empty wine vat, and sustained a wound of the right upper lid. When the child was seen by Villard, about 48 hours after the accident, there was a wound, 16mm. to 18mm. in length, in the outer part of the upper eyelid, and between the lips of this wound there protruded a fleshy mass, roughly resembling an almond in shape, and having a length of 15 mm. or 16mm. It was of firm consistence, almost insensitive to pressure, and was adherent to the depths of the orbit by means of a pedicle. Villard replaced the mass as well as he could, and closed the wound with five points of suture. Union by first intention resulted.

Dor, Louis.—**Tuberculosis of the eye consecutive to a wound of the cornea by a contaminated toy.** (Tuberculose oculaire consécutive à une blessure de la cornée par un jouet contaminé.) *Revue Générale d'Ophtalmologie*, 30 juin, 1903.

A child, aged 4 years, wounded his right cornea with a wooden toy, the surface of which was thought by Dor to have become contaminated with tubercle bacilli from the sputum of a person suffering from phthisis. When seen a month after the accident, the patient appeared to be affected with a traumatic irido-cyclitis. A month after that, Dor performed with some difficulty an iridectomy. Two or three days after the operation, several small, yellowish nodules made their appearance upon the iris, and this led to the diagnosis of tuberculosis. Fresh nodules appeared, the eye became soft, and sight was lost. The patient developed a cough, and began to lose flesh. The eye was eventually removed. Upon examination, the excised organ was found to contain tubercles in the ciliary body and choroid. The exact nature of the disease was confirmed by the inoculation of a guinea-pig with the tuberculous products.

Jessop, Walter H.—**Two cases of Proptosis associated with disease of Ethmoid and Sphenoid respectively.** *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Jessop publishes the notes of two interesting cases of acute proptosis, the one due to disease of the ethmoid and the other of the sphenoid bone. They were of septic origin, and were confirmed by *post-mortem* examinations. Their main points were as follows. No. 1.—A schoolboy, nine years of age, suffered from general malaise, raised temperature, accelerated pulse, headache, swelling of the left upper lid, and proptosis

of the corresponding eyeball. An operation for adenoids had been performed about a month before the patient came under Jessop's care. Some two drachms of pus were evacuated through an incision in the swollen upper eyelid—an operation repeated four days later. The lad left hospital, improved, shortly afterwards. However, some four months later, he was readmitted with a recurrence of his former symptoms. An incision in the left upper lid gave vent to a considerable quantity of evil-smelling pus. The abscess cavity was explored, and crumbling, gritty bone scraped away from the inner side of the orbit. A week later, more osseous *débris* was removed. The symptoms soon subsided, and the patient left hospital for the second time. But a further recurrence necessitated his readmission about a month later. Rigors, high temperature, and vomiting led to the performance of another operation similar to those mentioned above. The patient died eight days after his readmission to hospital. At the autopsy, septic cerebro-spinal meningitis, pus in the ethmoidal cells on the right side, and an abscess of the right frontal lobe were found. No. 2.—A man, aged 31 years, was admitted on account of headache and vomiting, which had come on eleven days after suppurative tonsillitis. There was œdema of the lids, and proptosis of the left eyeball. High temperature rigours, and vomiting supervened, and despite an incision into the affected orbit, the patient became comatose and died six days after admission. A *post-mortem* examination disclosed the existence of thrombosis of the circular and cavernous sinuses, necrosis of the body of the sphenoid bone, meningitis, and gangrene of the superficial parts of the frontal lobe at the base of the brain.

Jackson, Edward—Tuberculosis of the Conjunctiva. *Ophthalmic Record*, October, 1903.

Jackson reports a case of tuberculosis of the conjunctiva of one eye in a child aged 10 years, associated with swelling of the corresponding cheek and glands. The disease presented some clinical particularities which caused it to resemble Parinaud's conjunctivitis. Under the local use of trikresol and iodoform, with the usual constitutional treatment for tuberculosis, the disease appeared to be in process of cure. It is noteworthy that a limited number of tubercle bacilli were found in cover-glass preparations made from the conjunctival secretion.

Dunn, James W.—An uncomplicated fourth-nerve Paralysis of Traumatic Origin. *Ophthalmic Record*, October, 1903.

Nettleship, E.—A case of Family Optic Neuritis (Leber's Disease) in which perfect recovery of sight took place. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

In a man, aged 28 years, Nettleship found V. $\frac{6}{80}$ and No. 16 J. pallor of the temporal side of the optic discs, and a central horizontal scotoma for green but apparently no scotoma for red. The failure of sight had commenced seven months previously. There were two similar cases in the patient's family. The diagnosis of Leber's disease was made, and a bad prognosis given. The latter, however, was not borne out by the further history of the case; for the sight began to improve three months after Nettleship saw the patient, and nine months later it was good enough to allow the patient to read for ordination. The patient was then certainly able to read Jaeger No. 1. A peculiar feature of the case is that a brother, also affected with Leber's disease, is stated to have recovered his sight.

In the discussion that followed the reading of Nettleship's paper, instances of recovery of sight in Leber's disease were quoted by W. Adams Frost, A. W. Ormond, Johnson Taylor, and J. B. Lawford.

Hartridge, Gustavus.—Zonular Opacity of Cornea. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Blair, Charles.—A case of Zonular or ribbon-shaped Opacity of the Cornea. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Reynolds, Dudley S.—Blepharitis marginalis. *The American Journal of Ophthalmology*, September, 1903.

The treatment recommended by Reynolds for the various forms of blepharitis is by the periodical application of carbolic acid, prepared by adding ten minims of alcohol to a drachm of the crystallised acid. After removing all scales and scabs from the inflamed parts, the mixture is applied by means of a needle. The application, as a rule, should be repeated about once in ten days, and during the intervals the case is treated by the yellow oxide of mercury ointment.

Fiske, George F.—A Series of Glaucoma cases. *The American Journal of Ophthalmology*, September, 1903.

Fiske contributes a short paper based upon thirty-six tabulated cases of glaucoma. The author expresses a strong belief in the efficacy of iridectomy performed early in the course of the disease. In recurrences, a second or, if necessary, a third iridectomy must be made.

Poynton, F. T., and Paine, Alexander.—A contribution to the study of Rheumatic Iritis. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

This most suggestive paper, which must be read to be appreciated at its true worth, deals with the etiology of acute rheumatic iritis, an affection that the authors admit to be rare clinically. It will be remembered that Drs. Poynton and Paine have described as the cause of acute rheumatism a minute diplococcus, which they have found in some of the associated lesions, such as endocarditis, pericarditis, pleuritis, and subcutaneous nodules. In the course of their experiments they have twice succeeded in setting up an acute inflammation of the iris by injecting pure cultures of this organism into the auricular vein of rabbits. The iris showed a fibro-cellular exudation, containing the micrococci of rheumatic fever. In the first experiment, the organism was isolated from a case of ordinary rheumatic fever in a child, and in the second from a case of endocarditis of rheumatic origin. The authors conclude their communication with the following words: "There is still a great gap in our knowledge. For no one, so far as we are aware, has isolated this organism from a case of rheumatic iritis in man and produced rheumatic fever in animals."

Stephenson, Sydney.—Papilloma of Ocular Conjunctiva. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Stephenson, Sydney.—Papilloma of Palpebral Conjunctiva. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Stephenson's patient, a man aged 48 years, presented numerous papillomata (confirmed microscopically) of the palpebral conjunctiva, together with a papilloma on the right side of the hard palate, about $\frac{1}{2}$ inch from the last molar tooth of the upper jaw.

Ogilvy, A.—Tumour of Ocular Conjunctiva in a patient aged 66 years: ? Epithelioma. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Ogilvy's patient was at first thought to be suffering from an ordinary pterygium on the inner side of the right cornea. The growth was dissected away. A recurrence had to be removed on two occasions. When the patient was shown at the Society, there was a hard, sessile tumour (15 mm. \times 12 mm. \times 3 mm.) encroaching on the cornea for a distance of 2 mm. No glands infiltrated. Scarcely any pain. Vision was $\frac{5}{8}$ and (with a suitable glass) No. 1 J.

Dodd, H. Wórk.—**Melanosarcoma of Upper Palpebral Conjunctiva.** *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A woman, aged 83 years, complained of a lump in the left upper eyelid, of six weeks' duration. Upon examination, the affected eyelid was found to be bulged forward by a growth, about the size of a hazel nut, the dark colour of which could be recognised through the eyelid. The skin, however, was not involved. The growth was of a soft—almost jelly-like—consistence; it was dark, and so vascular that it readily bled upon manipulation. It almost concealed the eyeball. Neither glandular enlargement nor secondary growths were found. Dodd removed the contents of the orbit, together with the upper lid, and a fortnight later, covered in the denuded parts by means of Thiersch grafts. Pathologically, the tumour was found to be a melanosarcoma, measuring $\frac{3}{4} \times \frac{3}{8}$ inch, and to be attached by a stalk to the upper border of the tarsal plate.

Mayou, Stephen.—**The treatment of Trachoma by the X-rays.** *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Mayou publishes details of nine cases of trachoma treated by X-rays. He sums up the advantages of the method thus:—(1) there is less deformity of the lid than in other methods; (2) it is practically a painless treatment; and (3) pannus clears up more thoroughly. The X-rays, Mayou thinks, exert their action by causing a leucocytosis and subsequent cicatrisation of the nodules.

Harman, N. Bishop, and Bradburn, A. A.—**A case of Bullet Wound of the Brain, with Partial Motor Paresis and Hemianopsia.** *Lancet*, May 16, 1903.

Hinshelwood, James—**Three Cases of different forms of Congenital Syphilitic Diseases of the Eye occurring in the same family.** *Glasgow Medical Journal*, April, 1903.

The three cases were these. The eldest was a girl, aged 14 years. The pupils were irregular and posterior synechiæ were present. She had had interstitial keratitis 5 years ago. She had also the ear and the teeth affected. The second was a boy, aged 12 years, with typical teeth. The anterior part of the eye was healthy, but the fundus showed retinal degeneration, looking as if it had been sprinkled with coal dust; the discs were pale; and the vessels were small. The third was a girl, aged 9 years, with teeth rather approaching Hutchinson's type. The anterior part of the eye was quite healthy, but

there was well-marked choroiditis; the discs were pale; and the vessels were small. A typical family history is given. The treatment is also discussed.

Ramsay, Maitland.—Penetrating Injury of the Eye, with three Lashes in the Anterior Chamber. *Glasgow Medical Journal*, March, 1903.

The patient was a boy, aged 12 years, who was struck a month before with a fragment of a broken jug. The cornea was lacerated and the iris prolapsed. Immediately afterwards several lashes were removed from between the lips of the wound. The iris is now seen to be adherent to the whole wound. The pupil is dilated but irregularly, and the lens is opaque. Three cilia are seen in the aqueous. All three were removed along with the opaque lens. The pupil became partially closed by a band which was divided, the pupil then dilated, and with correction the patient was able to see $\frac{1}{12}$ and ordinary reading type.

Zia, H.—Upon a school epidemic of Conjunctivitis. *Muen. Med. Woch.*, 1903, Nr. 7.

A peculiar "epidemic" of conjunctivitis is described by Zia which broke out in a private school for girls. The contagion came from one of the pupils who was under treatment for an eczematous affection of the cornea. In rapid succession neighbour after neighbour of this girl presented herself with complaints of burning and watering eyes, inability to do sewing, and so forth. Examination revealed a harmless follicular enlargement in eight-tenths of all patients, while a small number suffered from a simple folliculitis. The contagion was manifestly psychical, and strict regulations were accordingly instituted, whereupon not a single girl made any further complaint.

Archives of Pediatrics, August, 1903.

III.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Rollet, Étienne.—The radical cure of Dacryocystitis by extirpation of the lacrymal sac: ultimate results. (La cure radicale des Dacryocystites par l'extirpation du sac lacrymal: Résultats éloignés.) *Revue Générale d'Ophtalmologie*, 31 janvier, 1903.

The keynote of Rollet's communication is struck in the opening sentence, where the author writes: "To treat dacryocystitis by extirpation of the lacrymal sac, is almost always to obtain a rapid and definitive cure."

Rollet reports 27 cases treated by extirpation of the sac, and watched for periods ranging from 6 months to 6½ years. The results, in his hands, have been most encouraging. Thus, in 24 of the cases all signs of suppuration ceased as soon as the sac was removed, and there was no recurrence later. As to watering of the eye, this was cured by the operation in 18 instances; in two instances it was insignificant; in one instance it was intermittent; in three instances it made its appearance only when the patients were exposed to strong wind; and in three instances only did it persist unaltered despite the performance of the operation. Rollet employs a cutting raspatory (*rugine tranchante lacrymale*), which he prefers to a scalpel for removing the sac in its entirety. If any portions of the sac are left, reunion is retarded, and recurrence is to be expected. The operation, according to Rollet, is indicated in the following conditions:—

- (1) Mucocoele, lacrymal tumour, or ectasia of the lacrymal sac, *i.e.*, a definite distension of the sac;
- (2) Chronic lacrymal fistula;
- (3) Phlegmonous dacryocystitis;
- (4) Tuberculous dacryocystitis.

On the other hand, it is rarely indicated in simple dacryocystitis, without saccular distension, an affection that usually yields to probing and injection.

Finally, Rollet enters into some interesting speculations as to the why and wherefore of the prompt cessation of lachrymation after extirpation of the sac. He concludes, with Desmarres, Mooren, Silex, and others, that the cause of the hypersecretion is to be traced to inflammation of the sac, and that when the latter is removed, the former consequently disappears.

Tornatola (Messina).—On post-operative treatment without bandages, especially after removal of cataract, and on occlusion of the eyelids by a particular form of suture. (Sul trattamento postoperatorio a cielo aperto, soprattutto dopo l'estrazione di cataracta, e vulla occlusione delle palpebre con sutura a pie de di uccellino.) *Annali di Ottalmologia*, Vol. XXXII., fasc. 5-6, 1903; also *Revue Générale Ophtalmologie*, 31 mars, 1903.

Since in 1772 the Swedish surgeon Odhelius treated all the eyes he operated on without bandages, much has been written upon this method. The advantages said to be possessed by the "open" method may be summarised as under :—(1) As, thanks to the blinking of the lids, the eye is continually laved by the tears, there can be no stagnation of the conjunctival secretion, which represents an excellent culture-medium for the growth of pathogenic micro-organisms; (2) any elevation of the local temperature is avoided; (3) the eye can be washed several times a day; (4) any twitching of the eyelids, caused by displacement of the bandage, is avoided. Tornatola does not attach much importance to any of the above alleged advantages of the "open" plan. On the other hand, as he points out, careful bandaging brings the lips of the wound into apposition, and is a safeguard against evil consequences from sneezing or coughing. Moreover, a bandage keeps the patient's hand (never surgically clean) from touching the eye, and prevents the wound from infection by dust, etc. In some patients, for example, those addicted to the immoderate use of alcohol, bandages are not well tolerated. In such cases Tornatola closes the eyelids by means of a suture, applied in the following way.—Two needles are threaded upon a piece of stout silk. One needle is then introduced into the edge of the upper eyelid, close to the orifices of the Meibomian glands, at the junction of the internal and middle third of the eyelid. The needle is pushed for about 2mm. along the posterior surface of the tarsus, and brought out through the skin at a distance of 3mm. from the edge of the eyelid. The other needle is passed in a similar way into the edge of the lower eyelid, the two points of exit being made to correspond. Two other needles are introduced at the junction of the outer with the middle third of the eyelid. In order to perform the operation for cataract, etc., the two threads are held aside. The operation once completed, two or three small sterilised beads are threaded on each end of the sutures. The eyelids are then approximated by means of the index fingers, and are kept in place by tying the ends of the sutures over the beads.

A. ANTONELLI.

Ewing, Arthur E.—An operation for atrophic (cicatricial) entropion of the lower eyelid. *The American Journal of Ophthalmology*, February, 1903.

Ewing has modified and applied to the lower eyelid Dr. John Green's well-known operation for entropion of the upper eyelid. The eyelid having been clamped in the *pince-anneau* of Desmarres, an incision, passing through conjunctiva and tarsal plate into the orbicularis layer, is made parallel with the edge of the lid at a distance of 2mm. or 2.5mm. from the last-named. The partially detached marginal strip is then turned forwards, so as to cause the conjunctival incision to gape widely. Three fine silk sutures are next passed through the conjunctival edge of the cut, and then through the marginal strip, being entered at the bottom of the wound, between the muscle and the detached tarsus, to emerge upon the skin surface just below the line of the cilia. The needle is then re-entered through the skin in the same horizontal line, about 3mm. distant from the first point of exit, and the suture is tied in the conjunctival incision. Should any part of the orbicularis muscle remain exposed, it should be covered by inserting intermediate sutures connecting the conjunctival edge of the standing portion of the tarsus with the bottom of the wound. The eye is dressed daily and the sutures are usually removed after three to five days. Ewing has performed the operation upon four cases, with results that appear to leave little to be desired.

Alt, 'Adolf.—On the removal of the eyeball, together with the tarsi, conjunctival sac, and lid margins. *The American Journal of Ophthalmology*, March, 1903.

Alt believes that in certain cases, especially in malignant growths affecting both eyeball and margin of the lids, the globe should be removed together with the tarsi, the conjunctival sac, and the edges of the palpebræ. The operation advocated was described originally by Dr. John Green in the year 1884. The method employed, both by Green and by Alt, is first to enucleate the eyeball. The tarsal tissues and the conjunctiva are then grasped with forceps, drawn forth from the orbit, and cut away from the other parts. The edge of the eyelids is then excised. The final step is to stitch the denuded edges of the eyelids together. Alt concludes his article with these words: "The freedom from contained secretion and irritation, from the unsightly empty orbital cavity, the fact that by covering the orbit new irritations and, perhaps, with them sources of relapses, are definitely excluded, seem to make this mode of operating one which should be

more frequently employed than as yet it seems to be. For most working people, it would seem to be much better than the wearing of an artificial eye, even after simple enucleation."

Maddox, Ernest E.—I. Appliance for electric warmth to the eye. II. A new adjustable pocket transformer. III. A circular-shaped lamp resistance. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Maddox has invented an ingenious apparatus for applying heat to the eye. It consists of a coil of fine wire stitched to a piece of flannel, and made of such a size as to confine the heat to the eyeball itself. The appliance is heated by means of a current of electricity. In use, a small circle of lint or silk is laid upon the eye, with or without a very thin layer of silk fluff or cotton-wool; then the heater, after bending it to the shape of the eye with the wires downwards, and over this a light pad of frayed-out cotton-wool, or, better still, lamb's wool, fixed either by strapping or by a turn of "Japanese crêpe" bandage. The Maddox eye-heater can be obtained from Miss Long, Grosvenor Road, Bournemouth.

Pope, Lt.-Col. T. H.—Extraction of Cataract in the Government Ophthalmic Hospital, Madras. *Indian Medical Gazette*, September, 1903.

Pope has for some time discarded a bandage in the after-treatment of cataract extractions, using a shade only. He records the results of 1,235 extractions. There were 6.6 per cent. of failures, and in 4.3 per cent. prolapse of the iris took place. Pope does not state whether an iridectomy formed part of the operation, but the routine operation in Madras is without iridectomy. (See *Indian Medical Gazette*, June, 1901.)

H. HERBERT.

Parry, L. A.—Some Ophthalmic Notes. *The General Practitioner*, October 3, 1903.

Parry has nothing but praise for protargol in eye work. In the treatment of erosions of the cornea, he advocates the use of very finely powdered xeroform dusted on the surface of the ulcer.

Brooksbank-James, G. T.—A new portable perimeter. *Lancet*, August 1, 1903, and *Trans. Ophth. Society*, Vol. XXIII.. 1903.

Brooksbank-James describes a simple form of perimeter, the chief advantage of which is that when taken to pieces,

the component parts fit into a wooden box, $4\frac{1}{2}$ inches wide, 10 inches long, and 2 inches in depth. Accordingly, it really deserves the description "portable." The cost of the instrument (made by Ferrier, 56, Beresford Street, S.E.) is stated to be moderate.

Fuchs, E.—Cocaine. *Wochenschr. f. Ther. u. Hygiene. des Auges*, Jan. 22, 1903.

Fuchs calls attention to some of the therapeutic uses of cocaine, at the same time he reminds us that it is not always a harmless agent. When using it either for operations or for the removal of foreign particles from the cornea, he makes the patient keep the lid closed. In operation upon the lids he injects the cocaine under the skin, and when operating upon the muscles he injects it into the conjunctiva. Even in operations upon chalazia, he injects the cocaine right into the chalazion. He uses it in the photophobia seen in phlyctenular conjunctivitis and keratitis. He does not allow the patients to use it, but applies it himself. He has noticed that the photophobia will soon disappear if he can get the children to keep the eyes open for a short time every day for a few days, and this he accomplishes by instilling a few drops of the cocaine into the eyes in the morning when the photophobia is usually most intense. This will enable the little patients to keep the eyes open for half an hour or even longer. This seems to break the spell, so to speak.

Annals of Ophthalmology, April, 1903, p. 256.

IV.—MISCELLANEOUS.

De Schweinitz, G. E., and Edsall, David L.—Concerning a possible etiological factor in tobacco-alcohol amblyopia revealed by an analysis of the urine in cases of this character. *The American Journal of the Medical Sciences*, August, 1903.

De Schweinitz suggested in the year 1900 that tobacco-alcohol amblyopia might ultimately be found to depend upon an auto-intoxication. Horner long ago contended that neither tobacco nor alcohol, as such, was the direct toxic agent in central amblyopia, but that those substances, together produced chronic gastric catarrh, which in turn established a chronic anæmia of the optic nerve, terminating in the pathological changes found in this disorder. Again, Sachs maintained that even in pure tobacco cases there was,

owing to complex chemical changes in the stomach, a transformation of the normal gastric juice into acids of the fatty type, which, combined with nicotine, to form substances more injurious than the tobacco bases themselves.

De Schweinitz and Edsall now attempt to throw some light upon the nature of the poison or poisons responsible for tobacco-alcohol amblyopia. To this end, they have analysed the urine of patients suffering from tobacco-alcohol amblyopia, and have regulated the diet until a normal standard in the excretions of the body was reached, and, lastly, have noted the effect of such dietetic treatment upon the patients. They adduce the clinical details of seven cases, where the above requirements were more or less completely fulfilled. Examination of blood and of blood-pressure, where they were made, yielded negative results, a remark applying also to the investigation of the faeces. In five cases where the contents of the stomach could be examined, marked evidence of chronic gastritis was found. The determination of the intestinal decomposition products and of the urobilin showed marked anomalies. With regard to urinalysis, the chief points noted were as under :—a decided reaction for phenol was obtained in three cases ; increase in the conjugate sulphates, and of the volatile fatty acids was present ; the former in three and the latter in four cases ; there was marked indicanuria in four of the cases. The authors think that the absorption of excessive amounts of volatile fatty acids had something to do with the production of the amblyopia. Finally, in all the cases, urinalysis showed a more or less pronounced urobilinuria, and this nearly or quite disappeared under treatment, coincidently with an improvement in the condition of the eyes. It may be mentioned that a patient afflicted with long-standing optic atrophy, not due to tobacco or to alcohol, was used as a control, but his urine showed entirely negative conditions.

In the cases of toxic amblyopia there were evidences of marked derangement of digestion and of metabolism, or of both, a disturbance that appears to be capable of lasting for long after the use of alcohol or tobacco has been discontinued. The authors believe the toxic substances produced in the digestive tract, or in the course of the metabolic processes, play at all events a certain part in the production of the amblyopia, and that at times they are probably the direct cause of the continuance of the symptoms when the latter do not disappear after the toxic agents, in the shape of tobacco and alcohol, have been suppressed. This view, they point out, is in accord with the investigations concerning the way in which other toxic effects of alcohol are produced, and it is also with our knowledge of the effects of certain chronic

poisonings, as, for example, by lead. Since, however, all severe cases of tobacco-alcohol amblyopia investigated by the authors had urobilinuria and the liver was enlarged and tender in three of the patients, it is conjectured that there was a disturbance of the liver as well as of the alimentary tract.

Gonin, J.—The ophthalmoscopic diagnosis of hæmorrhages into the optic nerve sheath. (*Le diagnostic ophtalmoscopiques des hémorrhagies intravaginales du nerf optique.*) *Annales d'oculistique*, février, 1903.

The views hitherto held with regard to hæmorrhage into the optic nerve sheath have been those of Magnus, according to whom the condition gives rise to appearances similar to those accompanying obliteration of the central artery of the retina, although it may be distinguished by certain matters of detail, such as the earlier advent of the retinal disturbance, and a persistence of the calibre of the arteries, which are shrunken without being actually obliterated. The foregoing description of the ophthalmoscopic signs of sheath-hæmorrhage is accepted by Panas, Rollet, and Sureau. Wecker, however, adds to it the observation that such hæmorrhages betray their existence by flame-like ecchymoses in the vicinity of the optic disc or the macular region. Gonin reviews and criticises the various appearances believed to be diagnostic of sheath-hæmorrhage. He concludes that while not a single one of them has been demonstrated anatomically, any or all of them may be accounted for by an embolus of the central artery. On the other hand, Gonin relates a case where, although the ophthalmoscopic appearances agreed with de Wecker's description, serial sections demonstrated the retinal origin of the hæmorrhages and the existence of thrombosis of the central artery. "Moreover," he adds, "in the twenty-four cases of sudden blindness with retinal ischæmia, in which an anatomical examination has been made, not a single one was found to be the result of a hæmorrhage into the nerve or its sheaths." Gonin therefore concludes that the view hitherto held rests upon mere supposition. It seems improbable, as he points out, that bleeding into the sheaths or nerve-trunk would be able to interrupt the continuity of the nerve-fibres or the course of the blood in the artery, or even to bring about enough compression to cause sudden blindness. Then, the spontaneous occurrence of hæmorrhage into the nerve-sheath must be a veritable curiosity, inasmuch as he has been unable to find a single authentic observation of the kind in ophthalmological literature, whereas obliteration of the artery by embolism, thrombosis, or endarteritis, is becoming more and more frequently demonstrated. In brief,

he believes that the doctrine of retro-bulbar hæmorrhage, as taught by Magnus and upheld by de Wecker, is neither more nor less than a legend, which should no longer find a place in any manual of ophthalmology. Gonin is of opinion that the only ophthalmoscopic appearance justifying a diagnosis of retro-bulbar hæmorrhage is a slight degree of retinal stasis, and, finally, he insists upon the fact that negative ophthalmoscopic signs do not exclude a considerable hæmorrhage into the optic nerve-sheath.

ARMAND DARIER.

REVIEWS.

Transactions of the Ophthalmological Society of the United Kingdom. Vol. XXIII. for the Session 1902-1903. London: J. & A. Churchill, 7, Great Marlborough Street, W. Price 10/6.

Volume XXIII. of the *Transactions* of the Ophthalmological Society, dealing with the Session 1902-1903, has just been issued to members. It includes eighty-four communications and many illustrations. It forms, as usual, a handsome, attractive-looking volume of some 400 pages, and should be studied by all who are interested in eye work. The communications it contains will be abstracted in due course in the columns of THE OPHTHALMOSCOPE.

Notes on Optics for Students of Ophthalmology. By A. S. PERCIVAL, M.A., M.B. London: Simpkin, Marshall, Hamilton, Kent, & Co., Ltd. 1902. Price 1s. net.

This paper-backed *brochure* of thirty pages has been primarily published, so we gather from the preface, for those post-graduate students who have attended Mr. Percival's lectures and demonstrations on ophthalmology. It appears to us to be well-suited for this purpose. The formulæ it contains are correct, so far as we have been able to verify them. Mr. Percival's pamphlet will certainly be useful to students of ophthalmology whose acquaintance with mathematics has gone well beyond the traditional second book of Euclid. The tract is well printed.

A Handbook of the Diseases of the Eye and their Treatment.

By Henry R. SWANZY, A.M., M.B., F.R.C.S.I. Eighth Edition, with illustrations. London : H. K. Lewis, 136, Gower Street, W.C. 1903. Price 12s. 6d.

When a text-book reaches its eighth edition in something considerably short of 20 years, it speaks much for its popularity and usefulness. This is what has happened with Swanzy's *Handbook of Diseases of the Eye*.

The present edition is similar in size and appearance to its predecessors, but it contains many additions and some obsolete matter has been omitted. The book now consists of 662 pages, including a most useful appendix, which describes in detail Holmgren's method of testing the colour-sense, and also gives the regulations as to defects of vision which disqualify candidates for admission into the Civil, Naval, and Military Government Services, the Royal Irish Constabulary, and the Mercantile Marine.

The most marked characteristic about the work is its extreme thoroughness. There appears to be hardly anything written that has not been consulted, and direct reference is made to the more important of these communications.

Considerable advances have been made in our knowledge of conjunctival and corneal diseases, due to more perfect methods of pathological investigation. These chapters have been brought thoroughly up to date. Another feature about the book has always been the very clear way in which operations are described, and this edition gives us several new ones, including Maxwell's operation for shrunken socket and Krönlein's temporary resection of the outer wall of the orbit for the removal of tumours, etc.

It is difficult in a short review of such a well-known book to point out its many good points, most of which are so fully appreciated, but we must say that for its size we know of no other that excels it, whilst it is written in a readable and interesting style.

We feel sure that the new edition will keep up the reputation of its predecessors and we can most thoroughly recommend it to students and practitioners and to ophthalmic surgeons as a book at once reliable, handy for reference, and most complete.

NOTES AND ECHOES.

WE have pleasure in announcing that in future one of the editors of the OPTHALMOSCOPE will be Dr. Charles A. Oliver, of Philadelphia, one of the most distinguished of the American ophthalmic surgeons. To readers on this side of the Atlantic he will be best known as co-editor of that great and classical compilation Norris and Oliver's *System of Diseases of the Eye*.

* * * *

THE ranks of ophthalmology have sustained an irreparable loss in the death of Mr. George Lawson, F.R.C.S. His professional experiences began in the capacity of a military surgeon in the Crimea. After returning home invalided in 1855, he entered civil practice as a surgeon to the Middlesex Hospital, a post which he held for no less than thirty-three years. He joined the staff of the Moorfields Ophthalmic Hospital in 1862, after having served as assistant to Bowman. In 1886 he was appointed Surgeon Oculist to Her late Majesty Queen Victoria. His long and distinguished career was brought to a peaceful close on October 12th, at his residence in Harley Street, in the 73rd year of his age. He leaves behind him a widow and five sons, as well as a large circle of friends, by whom he will long be held in affectionate remembrance.

* * * *

SIR WILLIAM J. COLLINS, Surgeon to the Royal Eye Hospital, has favoured us with the following appreciation of Mr. Lawson's character :—

“ I gladly comply with your request for a few lines respecting Mr. George Lawson. I was his senior clinical assistant for seven years, and he used to say we differed on every question of politics and religion but were the best of friends. No one who really knew Mr. George Lawson could fail to love him. I learnt many things from him besides the treatment of accidents to and diseases of the eye. He was a charming conversationalist, with a fund of epigrams and full of apt stories. He saw things from the patient's standpoint rather than from the expert's. Yet his opinion, though arrived at by seeming intuition, was always sagacious and eminently sane. He was always ready with some happy suggestion, and brought a new

observation of men and things to the service of his patients. He came to see me when I was down with typhoid ; and on my telling him how I longed for something to chew he suggested cakes of chocolate, which my physician sanctioned, and for which I blessed him. I do not know anyone who will fill the place he has left. He kept the base of his speciality broad ; he was a sound general surgeon and an oculist of the first rank ; but over and above both he was a man of the finest perceptions, the highest ideals, and of singular unselfishness. The world will be more empty without him."

* * * *

THE Continent, we regret to say, has sustained an equally heavy loss in the person of Professor Ernest Pflüger, of Bonn, who died on the 3rd of October. His reputation was world-wide, and among the best known of his professional achievements were his work on colour vision and his advocacy of the operation for the removal of the clear lens in high myopia. His absence from the Ophthalmological Congress at Heidelberg, in September, was the subject of much regret, although at the time it was not generally known that he was really seriously ill. Had he lived he would have been one of the chief figures at the International Congress to be held next year. The sympathy of his ophthalmic brethren all over the world will be accorded to the relatives of this able and arduous worker, who has for so many years occupied a place of undisputed and distinguished pre-eminence in the special branch of science which he adopted.

* * * *

THE *Times* has innocently enough lent its columns to what we consider a distinct breach of the ordinary ethical rules that govern the conduct of the medical profession. In its issue of October 20th an appeal for £10,000 was published under the heading of "The Wiesbaden Eye Hospital." The paragraph in question set forth the good done by that institution and justified its claim to British support by the statement that many poor English patients have been treated there. On that ground it would be justifiable for almost every public and medical charity in the United Kingdom to scatter mendacious appeals throughout the whole world. There is little fear, however, that the secretaries of our hospitals will degrade themselves in any such way. But

the Wiesbaden Eye Hospital authorities do not figure in the extraordinary *Times* paragraph. The latter was sent to that journal by Professor Dr. Hermann Pagenstecher, Wiesbaden, who finishes up by announcing that he is ready gratefully to acknowledge subscriptions. Were such an attested document to be issued throughout the nations by any less well-known man, the question of motives would certainly be raised all the world over. The desire for self-advertisement cannot be for a moment entertained in the case of so distinguished a surgeon as Professor Pagenstecher. At the same time we cannot help feeling that the issue of an appeal of this kind under his own name was an extremely unwise step. If Germany cannot support her own hospitals and it is absolutely necessary to appeal to the generosity of other nations, the right man to put the matter in hand is surely the hospital secretary, and not one of the honorary medical staff.

* * * *

AS EVERY medical man of ordinary shrewdness must have observed, the average book review of our professional journals is a lame and slipshod affair. Rarely does an absolutely just and well-informed judgment come from the pen of an obviously competent critic. Too often the notice of a book is stamped on the face of it with hastiness and malice. In other words, it is not the work that is discussed on its merits so much as the merits or demerits of the author. Sometimes an excellent book receives even a worse fate than mere unjust "slating," by being absolutely ignored. Reviewing that falls short of a high-water mark of candour is unworthy of the traditions of an honourable profession. The *Lancet* has recently taken a step in accordance with the high ideals that one would expect to guide its editorship. A notice of a book by Dr. Freeland Fergus appeared in its columns, wherein it was said, amongst other things, that "the confusion of algebraic signs signifying direction is appalling." Dr. Fergus wrote to the Editor, complaining of the unjust nature of the notice of his book. After hearing both sides of the question, the Editor came to the conclusion that the critic had acted unfairly, and "with deep regret" confessed that Dr. Fergus's book had not received justice in their columns. How many a pang would be saved to unassuming merit were all reviewers skilful and just, and all editors as candid as that of our contemporary.

THE boom in special journals continues. The cry is "Still they come." Two new eye journals are announced. One is the *Annals of Ophthalmology* from America, hailing from St. Louis, Mo., and edited by H. V. Würdemann, of Milwaukee. It is published quarterly, and has for some time past been favourably known on account of the excellence of its abstracts from foreign literature. The forthcoming English edition is to be edited by Claud Worth. The second invader is *La Clinique Ophthalmologique* from France. It is edited by Dr. A. Darier, and its new departure will consist in the publication of an Anglo-American edition. Already the literature of our speciality, both solid and ephemeral, has attained colossal proportions.

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ORIGINAL COMMUNICATIONS.

A CASE OF ENUCLEATION FOR GLIOMA OF THE RETINA IN 1892: NO RECURRENCE OF THE DISEASE TO DATE (1903).*

BY CHARLES A. OLIVER, A.M., M.D.,

SURGEON TO WILLS' EYE HOSPITAL, PHILADELPHIA, PA., U.S.A.

ON the first day of August, 1892, Dr. Robert G. Moon of this city kindly brought A. L., a girl, aged 9½ years, to me at Wills' Hospital. Dr. Moon's notes of the case are as follows:—
“I first saw A. L., aged nine and a-half years, in consultation with Dr. R. Wernick, of Wernersville, Penna., on the 20th June, 1892. About two years previously she awoke in the middle of the night with ‘awful’ pain in her right eye, and in the morning she was unable to bear the light. She

[Read before the October, 1903, Meeting of the Section on Ophthalmology of the College of Physicians of Philadelphia.]

was at once attended by a practitioner of the neighbourhood, but the severe pain lasted for two weeks longer. At the end of that time it began to subside, but she was apparently deprived of the sight of the affected eye. The eyeball had ever since been inflamed and there was great intolerance of light, which continued until the time I saw her, when she presented the following appearances. The child was evidently delicate and anæmic, with slightly enlarged cervical glands. There were redness and slight swelling of the margins of the right eyelids. The eyelids were almost constantly closed, as if light distressed her. In the right eye there was general injection of the scleral vessels, and deep red vascularity of the ciliary region. The ciliary veins were engorged and of a purplish hue, the cornea was quite transparent, the iris was hardly distinguishable, and in the pupillary area there was a nodulated opacity of a reddish yellow colour, covered with minute blood vessels. The tension of the globe was + 1. The vision in this eye was completely lost. The left eye was intolerant of light, but the globe was normal in appearance and tension. Enucleation of the right eye was recommended, but the operation was deferred for a time. Meanwhile, she was ordered syrup of the iodide of iron and cod liver oil emulsion. When seen again on the 18th July, 1892, the right globe had increased in tension (+ 2). Its anterior chamber was almost abolished, the iris was reduced in breadth to a very narrow ring of a dull bluish gray colour surrounding a dense reddish-yellow opaque body presenting three projecting bosses divided by three well-marked depressions radiating from the centre of the pupillary area. There was general injection of the ocular tunics and fine vessels penetrated the circumference of the cornea. There was no pain in the eyeball, but there were slight photophobia and lachrymation. The left eye presented no morbid appearance beyond slight photophobia and lachrymation."

When the case was brought to me, examination showed that the tension of the affected eye was increased to an almost stony hardness, this being more pronounced in different situations. The anterior scleral veins were enlarged and tortuous. There was but little conjunctival congestion. The cornea was steamy, translucent in places, and markedly anæsthetic. The lens was cataractous, partially absorbed, and protruding through a widely, although evenly, dilated pupil. The anterior summit of the lens, which showed isolated thickenings of the overlying capsule, was jammed against the posterior surface of the cornea. The narrow rim of iris tissue was degenerated and filled with minute yellowish bodies of a

granular type. With the ophthalmoscope, a faint yellowish glare could be seen in places through the partially opaque lens. There was no ciliary tenderness.

The left eye was normal in every respect.

The patient was placed under the influence of ether, and the eyeball was enucleated, the retrobulbar portion of the optic nerve being severed as close as was possible to the optic foramen. The exposed portions of the orbital cavity were subjected to the closest scrutiny, and the cut end of the optic nerve was cauterized. Recovery was rapid and uneventful, the child being discharged from the hospital in about seven days' time. The excised globe was preserved for study under the microscope.

Having heard nothing further of the patient, I addressed a note of inquiry to Dr. Moon in the summer of the following year, to which he replied as follows :—

"When I last saw the child on the 20th June, 1893, at her home in Berks County, I found her greatly improved in general health. Whilst still looking somewhat pale, she had grown considerably, she had gained flesh, and there was no longer any enlargement of the cervical glands. She had been regularly taking cod-liver oil emulsion since the operation until the bad weather set in. There was no tenderness or tumefaction of the abdomen, and until three weeks previously the bowels had acted regularly ; but she had then a troublesome diarrhoea which lasted six days, and was only checked by 'clover tea.' The 'stump' in the right orbit was of a healthy pink colour, but its movements were somewhat limited. There were no nodules to be felt anywhere in or about the orbit, and the operation appeared to have been perfectly successful in checking the disease. The left eye was quite healthy, with normal pupil, and iris acting well to light and accommodation. There was no longer any photophobia. Vision equalled $\frac{5}{6}$, and the patient read No. 1 type with perfect ease."

Three years later (October 23rd, 1895), Dr. Moon sent me the following note :—

"June 7th, 1895, A. L. came to Philadelphia for the purpose of having a new artificial eye fitted. She was in splendid health, having developed into a hearty strong girl with stout body and limbs. Her complexion was ruddy ; she had no cough, or any apparent ailment. The soft parts of the orbit were perfectly healthy ; without nodules or thickenings. There was no disturbance of the vision of the left eye."

The specimen was given to Drs. William Campbell Posey and Edward A. Shumway who, very kindly sent to me the following report :—

“Measurements of the globe: antero-posterior diameter, 20 mm.; transverse diameter, 23 mm. Microscopically, the retina is seen to be detached, and to be the seat of a tumour which involves its entire extent, from the optic nerve entrance forward to the lens. The tumour-mass surrounds the lens, and has invaded the anterior part of the choroid, the ciliary processes, and the iris. The sub-retinal space is filled with a homogenous exudate, which contains a round darkly-pigmented mass, 8 mm. in diameter on the inner side of the globe. This mass is in contact with the tumour behind the lens, with the detached and thickened retina, and with the choroid laterally, and has much the appearance of a melanepithelioma of the choroid. The anterior chamber is obliterated, and the lens is stained dark blue by hæmatoxylin. The tumour-mass stains irregularly in portions.

“Microscopically.—The tumour of the retina is a typical glioma. The small round cells, with but little extra-nuclear protoplasm, stain uniformly in parts of the tumour. In others they show tubules of well-staining cells, surrounding a central blood vessel, which are in turn embedded in masses of cells which have lost all staining power, and are, in places, densely infiltrated with calcareous salts. The growth is non-pigmented, and the retina is so completely destroyed that it is impossible to determine the layer from which the glioma has originated. On examination under low power, one is struck with the large number of figures, having the appearance of tiny wreaths, some closed, and others open on one side. Study of these under greater magnification shows that these figures correspond closely with the rosette-forms described in many cases of glioma, and now well-known by the writings of Flexner, Wintersteiner, Van Duyse, Ginsberg, etc. The component cells are cylindrical in shape, and the lumen of the rosette shows a distinct lining membrane in a few places, but usually such a structure cannot be made out. These figures are especially numerous in the central half of the detached retina, and here make up a considerable portion of the growth. In the masses in the anterior segment of the eyeball, they are much fewer in number, and the ordinary tubular arrangement of closely-packed cells, with but little intercellular substance, predominates. The choroid behind the ciliary processes shows secondary deposits of the glioma cells, which stain more uniformly than those of the retinal growth, but are otherwise of the same character. Posteriorly, it is normal, except for hyperæmia of the vessels. The ciliary processes and the iris are also involved, the tumour-cells pressing forward nearly to the pupillary border. The structure of these membranes has been completely destroyed, and their

former position can be determined only by the lines of pigment cells which had not yet succumbed to the invading process. The lens is cataractous throughout, and is densely infiltrated with lime salts. The cornea shows a large number of newly-formed blood vessels in its *substantia propria*. Its epithelial covering is irregularly thickened, and the surface layers are dry and horny in appearance.

"Examination of the round pigmented mass in the sub-retinal space, alluded to in the microscopic description, shows that it is separated from the choroid by the pigment cell layer of the retina, and that it is an old, partly-encapsulated hæmorrhage, the corpuscular elements of which do not stain well. It contains a large quantity of blood pigment, and presents a great many triangular, needle-shaped clefts, such as are left after the removal of cholestearin plates by the solutions used in the dehydration of the tissue. Elsewhere, in the subretinal space there are smaller hæmorrhages in contact with the retina. The optic nerve is atrophic, and the blood vessels are widely distended with blood, even the small septal capillaries being increased to good-sized vessels. It is not infiltrated with glioma cells.

"*Diagnosis*.—Glioma of the retina, with secondary deposits in (and destruction of) the choroid, ciliary processes and iris ; cataract, secondary glaucoma ; old intraocular hæmorrhages."

At present writing (June, 1903), Dr. Moon reports a continuance of the patient's good health in every respect.

The case is of interest for several reasons :

1. The length of time which has elapsed without a recurrence ; this he accounted for by the plastic and cicatricial material occluding the channels for the exit of the anterior and middle lymph stream and blood currents, with the presence of an enormous old organized blood clot in the subretinal spaces, the atrophy of the optic nerve, and the occlusion of the vascular and lymph channels in the optic nerve itself and its surrounding coats ;

2. The non-involvement of the fellow-eye ; this, in spite of the long period of time which has ensued since the removal of the affected organ and the increased age of the patient, must still remain *sub judice*, because it may be possible that some of the glial cells of the retina of the healthy eye may be in a condition for faulty growth and perverted action, thus giving rise to a possibility for independent disturbance.

3. The age of the patient (nine and a half years) ; and the presence of the nests or rosettes.

THE TREATMENT OF DACRYOCYSTITIS BY EXTIRPATION OF THE LACRYMAL SAC.

By ETIENNE ROLLET,

CHIRURGIEN DE L'HÔTEL-DIEU ; PROFESSEUR AGRÉGÉ DE L'UNIVERSITÉ DE
LYON, FRANCE.

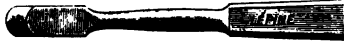
In the course of the following communication I purpose to study successively the indications for the performance of, and the results (immediate and remote) of extirpation of the lacrymal sac, as a means of treating dacryocystitis. An account of my original operations was published several years ago (*Lyon Médical*, 1896). I have now removed the sac from fifty patients.

Indications.—We must admit the existence of six clinical varieties of dacryocystitis.

In the first form: simple dacryocystitis, without ectasia, also called lacrymal blennorrhagia—extirpation of the sac is rarely needed, because probings and injections generally suffice to quell the disease. At the same time, I perform the operation in old and rebellious cases, in cases where the introduction of probes is painful or impossible, and when the patient demands a speedy cure, or where a cataract must be extracted. 2. Ablation of the sac appears to me to be the only rational operation in cases of lacrymal tumour, with mucous or purulent contents. 3. It is in phlegmonous dacryocystitis that operation is the least clearly indicated. Speaking generally, in these cases one should first open the perisaccular collection of pus, and wait until œdema has subsided. It is only late in the disease that one is able to extirpate the *sac à froid*, as in appendicitis. 4. chronic lacrymal fistulæ constitute a formal indication for ablation of the sac. 5. Tuberculous dacryocystitis (of which I have recorded four cases) is quickly cured by aseptic extirpation of the sac. 6. and there also we find a precise indication for the operation. Lastly, the prelacrymal tumour may be secondarily complicated from purulent dacryocystitis, and thus necessitate extirpation of the sac.

Method.—I remove the lacrymal sac in the following way. An incision, about 15 mm. long, but varying in accordance with the size of the tumour, is made, starting from the level of the internal palpebral ligament, and descending at first perpendicularly, and then being directed to the outer side. It thus describes a curve running parallel to that which is formed by the crest of the ascending process of the superior maxilla, which can be felt with the finger. The aponeurotic layer which covers the antero-external wall of the sac is next incised. This is followed by a dissection of the fibrous layer, thereby exposing

the anterior wall of the sac. I next free the neighbouring postero-internal portion of the periosteum, and the external wall of the sac, by means of a cutting raspatory (*rugine*



tranchante), and not by a bistoury, a point that I was the first to insist upon. The cupola of the sac is next disengaged, at the same time that the lower part of the sac is made to see-saw by dragging upon the upper part. Then, the sac is excised quickly, and abruptly, by cutting it away from its attachments at the level of the nasal duct with the raspatory. The last step is to curette the nasal duct. Jetting hæmorrhage is arrested by means of a small pair of forcipressure forceps, and oozing by tampons of wool and firm pressure. A flat dressing is applied, but neither drains nor sutures are used.

Immediate and remote results. Primary union of the wound is obtained on the fourth or fifth day, if one has taken care (I repeat the fact) to employ neither drains nor sutures. Suppuration is cured immediately the operation is performed, as well as its irritative and inflammatory accompaniments as regards the conjunctiva. I have never seen ectropion nor keloid nor adherent cicatrix follow removal of the lacrymal sac. The small and supple scar is at first reddish, but it soon becomes white, and then disappears; it always moves freely over the bone beneath.

According to my statistics (see *Revue générale d'ophtalmologie*, January, 1903), amongst 27 patients, watched for periods ranging from six months to seven years, 89 per cent. were definitely cured. In 67 per cent. lacrymation did not exist; in 22 per cent. it was insignificant, and made its appearance only when the patient was exposed to wind or cold in 11 per cent. it persisted. With regard to the last-named cases, however, the character of the secretion had changed since it was no longer infective but had become simple—*i.e.* painless, and merely inconvenient. It is noteworthy that lacrymation sometimes vanished immediately after the operation, and sometimes much more gradually.

How can we explain the immediate or gradual disappearance of lacrymation after an operation which, after all, removes only the excretory apparatus? Three theories have been propounded to account for the fact, as under:—

(1) That the lacrymo-nasal canal becomes formed anew, a view that I have opposed on both clinical and experimental grounds;

(2) That the watering of the eye disappears with the cause of the hypersecretion, namely, the lacrymal inflammation.

This theory explains the disappearance of the lacrymation often witnessed immediately after the removal of the sac, or, in other words, after suppression of the suppuration causing the lacrymal irritation ;

(3) That the operation is followed by an atrophy of the lacrymal gland. This theory explains those cases where the watering of the eye persists for some little time after ablation of the sac. An experiment performed by me in 1896 upon a dog, showed that an atrophy, macroscopical and microscopical, of the lacrymal glands followed five months after extirpation of the animal's lacrymal sac. Tscherno-Schwartz in 1901, reached the same results after experiments upon rabbits.

I conclude, then, that in the great majority of cases, a definitive cure of dacryocystitis may be obtained by systematic ablation of the lacrymal sac.

CLINICAL, PATHOLOGICAL, AND THERAPEUTICAL MEMORANDA.

NOTE ON A CASE OF VESICATION OF THE CORNEA BY POTASSIUM BICHROMATE.

By W. ERNEST THOMSON, M.A., M.D.,

SURGEON TO THE GLASGOW EYE INFIRMARY.

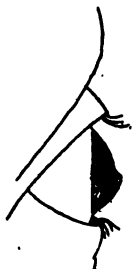
The following case is perhaps of sufficient rarity to warrant publication :

John McL., 64 years, chemical works labourer, came to the Glasgow Eye Infirmary on 8th October, 1902, stating that three days previously he had received a drop of chrome liquor in the right eye. Inasmuch as, when pressed, he was unable to give the exact date, and even suggested that possibly a crystal of potassium bichromate, and not a drop of the liquor, had got into the eye, his statements must be accepted with reserve.

Whatever the exact form of the irritant, whether crystal or liquor, it is practically certain to have been potassium bichromate, because the firm with whom he worked is largely engaged in chrome manufacture. At the time of the accident there had been some pain of a smarting character, which passed away and did not return.

Examination of the eye revealed that the lower half of the corneal surface appeared bulged forward in the form of an almost transparent bag, which could be made to change its shape on gentle pressure with the eyelid. The iris and pupil

seen through this part appeared markedly distorted. The surface took on no stain with fluorescein. There was considerable hyperæmia of the palpebral conjunctiva and the caruncel.



Profile drawing of the Cornea, made by Dr. A. J. Ballantyne.

Tension normal; vision much reduced, but not accurately noted.

He was admitted to the Infirmary as an in-patient, and kept in bed, and the further observation made that the area affected was anæsthetic, except to fairly firm pressure with a probe.

The eye was firmly bandaged, a mode of treatment which proved of no avail, as the patient could not tolerate any but light pressure.

Two days later the prominence appeared to be rather less, an opaque area had appeared along the upper part of it, and there was now present some irregularity of the surface. The lower half of the cornea, except near the limbus remained anæsthetic, the upper half acutely sensitive.

At this time some doubt was cast upon the diagnosis of blister, and a suggestion made by two of my colleagues that the condition might be one of acute ectasia, and that I might clinch the diagnosis by puncturing the prominence. Bearing in mind the history, the normal tension, the anæsthesia, and above all, the evident diminution in size of the swelling, I preferred not to take any operative steps.

Ten days after admission there was marked improvement in the curvature, the surface required very close inspection to reveal any irregularity, but the opaque edge at the upper part had increased.

On the thirteenth day the opacity was still greater, and there was yet some distortion of the pupil and increased apparent depth of the anterior chamber seen through the lower portion of the cornea, which remained clear.

The prominence became very gradually smaller, although no breach of surface, such as might allow of escape of fluid, was ever discovered, and by the twenty-seventh day the corneal surface appeared to have its normal curvature. The

opacity remained unaltered, *i.e.*, along the site of the greatest prominence, and the anæsthesia persisted. Ophthalmoscopically, the media were clear, but there was considerable irregular astigmatism. V. barely 6/36.

The patient was dismissed, and has only been seen once again, about the thirty-seventh day after admission. The anæsthesia persisted. During the whole time the patient was in hospital, the only treatment was the local use of belladonna lotion, and strict rest in bed. As above stated a pressure bandage could not be applied.

The case appears to me to be somewhat remarkable, whichever diagnosis is accepted. Taking all the facts, I cannot at present sustain any other than that of vesication.

A SIMPLE DEVICE FOR THE TREATMENT OF SPASMODIC ENTROPION.

By LESLIE BUCHANAN, M.D.

SURGEON TO THE GLASGOW EYE, INFIRMARY.

That form of spasmodic entropion of the lower eyelid, which is not uncommonly seen in persons who have lax eyelids as a complication of inflammatory affections of the conjunctiva and cornea, is frequently a source of considerable trouble and annoyance to the surgeon.

The ciliary margin rolls in, and the eyelashes impinge upon the cornea, and set up or keep up a great amount of irritation. The various simple methods of treatment, such as collodion applied to the cheek, strips of adhesive plaster, etc., usually fail to produce the desired result, so that many surgeons excise an elliptical piece of skin as a last resource.

For several years now I have employed the following simple device in the treatment of the condition, and have had such uniform satisfaction with the result, that I venture to hope it may be of service to others.

A needle, half curved, and about 3 cm. in length, bearing a suture of silk, double, and about eight inches in length, is inserted under the skin of the lower eyelid, at a point about 5 mm. from the ciliary margin, and at the junction of the external and middle thirds of the lid.

It is carried along under the skin parallel to the lid margin, and brought out at the junction of the middle and inner thirds. From this point of counter-juncture the suture is drawn out for half its length. The needle is then re-inserted at a point 3 or 4 mm. below the counter-puncture, carried along under the skin again to a point 3 or 4 mm. below the first puncture, and the thread drawn tight.

The two ends of the thread are then, being 3 mm. apart, crossed, drawn quite tight, tied and cut off short.

The immediate result is eversion of the eyelid, but this condition soon passes away. As a result of the irritation of the suture, a mass of inflammatory tissue is formed under the skin, having a direction perpendicular to the lid margin. It is this which produces the beneficial effect, for the cicatricial mass acts as a splint and keeps the lid rigid. The longer the stitch is left in, as a rule, the greater the amount of re-action. I usually find that a week or ten days is as long as is necessary in any case, and that the bridge of fibro-plastic tissue formed endures for a week or two after the stitch is removed. Complete absorption of the mass is invariable, and no permanent deformity results.

I find that so long as the ordinary antiseptic measures are taken, there is no risk of suppuration, and employ the method of treatment at the out-door department without hesitation. This method has the advantages, over the excision of a piece of skin, that it is almost painless and requires no anæsthetic, and that it occupies much less time.

CURRENT LITERATURE.

NOTE.—Communications of which the titles only are given either contain nothing new or else do not lend themselves to abstract.

I.—ANATOMY, PHYSIOLOGY, PATHOLOGY, AND BACTERIOLOGY.

Pusey, Brown.—Retinal rosette formations of neuroglia in inflammatory processes. *Archives of Ophthalmology*, July, 1903.

Pusey discusses the rosette formations found in glioma and in microphthalmic eyes and quite recently by Murakami (*Arch. f. Ophthal.*, LIII., p. 439, 1902) in pure inflammatory processes. Pusey has found rosettes in an eye removed on account of an acute kerato-irido-cyclitis. The histological examination of this eye is given at some length. The rosettes present clearly resulted from infoldings of the retina, probably caused by shrinkage of the bands that existed in the vitreous. The rosette formations were unusually distinct in this case owing to disappearance of the nervous tissues proper and the persistence of neuroglia tissue. On looking over his collection of pathological sections, Pusey found distinct rosettes in

several. The conclusion of the writer is that rosettes have one and the same origin whether they occur in gliomata, in microphthalmic eyes, or in inflammatory processes, since in every case their lining wall is formed by the external limiting membrane of the retina. Finally, Pusey raises the interesting question whether retinal tumours with rosette formations are less malignant than those devoid of such structures. The question, however, can at present be a matter only for speculative interest, and anyhow does not affect the treatment of these growths.

- (1) **Raehlmann.**—On ultramicroscopic investigation of colouring matters and its physiological significance. *Ophthalm. Klinik.*, August 20th, 1903.
- (2) **Ibidem.**—A further communication relating to ultramicroscopic investigation of combinations of colouring matter and their physical and physiological significance. *Ophthalm. Klinik.*, October 5th, 1903.

Raehlmann used a new microscope introduced by Siedentopf-Zsigmondiz of Jena, which by means of a brilliant focal, lateral illumination render visible the smallest particles (5μ — 10μ) in their natural colour. With this instrument he examined solutions of colouring matter, such as Prussian blue, carmine, ultramarine, naphthol yellow, and so forth. The resolution of each of the colouring matters into its component colours yields an unsuspected insight into the physical and physiological nature of colour, and is of importance as regards our conception of the mixing of colour. The smallest particles of a pure colouring matter are not only characterised by their colour but probably also by distinctive form and movements. It therefore follows that colouring matters may be analysed by this method. The composite colours examined showed their smallest component particles either lying alongside each other (physiological mixture of colours) or were seen to consist of particles differing in shape, movement, and colour from those of the components. This condition has been proved by more recent researches—for example, on a mixture of Prussian blue and naphthol yellow—to rise from the fact that the particles of one component cluster around those of another, forming, as it were, a kind of sheath. This covering, according to Raehlmann, is formed by electro-magnetic action, minute negatively charged particles collecting around those positively charged, or *vice versâ*. These composite particles may be again separated by the action of electro-magnetism.

A. BIRCH-HIRSCHFELD.

Brar, Aaron.—Two central Retinal Arteries. *American Medicine*, August 29, 1903.

Whilst examining the fundus of a lad, who was suffering from ametropic headaches, Brar found the following anomaly: two central retinal arteries in each optic disc, one emerging from the upper and the other from the lower half of the papilla.

Valenti, G.—Experimental researches upon the hæmolytic power of the vitreous and aqueous humour. (*Ricerche sperimentali sul potere emolitico dell'umor vitreo e dell'umor acqueo.*) *Archivio di Ottalmologia*, 1903, V. 10, Fas. 11 and 12, p. 407.

Valenti reaches the following conclusions:—

1. The aqueous humour of animals whose serum is hæmolytic for certain determined heterogenous erythrocytes shows a very limited hæmolytic power. In that respect the vitreous is somewhat more active, although it is always much less powerful than blood serum.

2. The aqueous and the vitreous humour of animals treated with heterogenous blood in respect of which serum should be hæmolytic, acquire hæmolytic properties greater than normal, but always inferior to those of blood serum. The aqueous and the vitreous of dogs inoculated with the serum of rabbits treated several times with the blood of dogs, always acts in this way.

3. The injection of irritant substances under the skin of the temple or beneath the conjunctiva of dogs and rabbits, and even injections into the anterior chamber, determines no changes in the hæmolytic action of the intra-ocular fluids. Mechanical irritation of the iris, paracentesis, tearing of the iris, iridectomy, and extirpation of the superior cervical ganglion sets up no modifications..

4. The injection of substances chemiotaxic as regards leucocytes provokes a sensible augmentation in the hæmolytic power of the vitreous, while the power of the aqueous humour remains unchanged.

5. It is therefore extremely difficult to modify the liquids of the eye in such a way as to augment their cytolithic power and their resistance against microbic or other invasions.

A. ANTONELLI.

Morton, H. Mc I.—A simple and convenient method for the mounting of macroscopic specimens. *Ophthalmic Record*, January, 1903.

Morton describes Greeff's simple plan of mounting eyeballs, the essential details of which are as follows: after hardening

the eyeball for two to four days in 10 per cent. formalin, cut it in the desired direction, wash in distilled water for ten minutes, and dry the specimen with a cloth. Fasten the eye to the back of the oblong glass jar used in the process with gelatine (gelatine heated with water for a few hours), allow the gelatine some minutes to dry, and then fill the jar with 10 per cent. formalin. Fasten the top of the glass cell down with gutta-percha cement, and cover the cement with paint. Finally, label the specimen.

Silberschmidt, W.—*Bacillus subtilis* as a cause of panophthalmitis in man. (Le bacillus subtilis comme cause de la panophtalmie chez l'homme.) *Annales de l'Institut Pasteur*, 25 avril, 1903, p. 268.

In Switzerland a husbandman or a vine-dresser working in the fields, whilst digging vigorously, suddenly experiences a pain at the moment a foreign body, usually a fragment of metal and more rarely a morsel of stone, penetrates into his eye. Twenty-four hours afterwards panophthalmitis declares itself, and the eye is lost. The disease is therefore a very serious inflammatory condition of the eyeball, running an extremely rapid course.

Silberschmidt has examined bacteriologically the vitreous humour in two eyeballs removed on account of severe traumatic panophthalmitis. In the first case the eye had been wounded whilst the patient was working in the fields, and the second eye had had a morsel of steel taken from its interior by Haab's giant magnet. From both these cases Silberschmidt isolated a pure culture of an organism belonging to the *bacillus subtilis* group. The bacillus, when injected into the vitreous of rabbits and dogs, set up panophthalmitis, the first symptoms of which were observed six to eight hours after inoculation. Poplawska, it appears, found a similar micro-organism in six cases of panophthalmitis, and Haab found it once. In a post-operative case of panophthalmitis, Roemer came across bacilli resembling *B. subtilis*, but no cultures were made. Kayser found the same organism, once pure and once associated with *staphylococcus pyogenes aureus* and *albus*, in two cases of traumatic panophthalmitis. Silberschmidt produced panophthalmitis by inoculating the vitreous with an emulsion of earth, and from two cases of the kind obtained *B. subtilis* in culture. These various facts and experiments lead Silberschmidt to conclude that the several representatives of the *B. subtilis* group of organisms may occasion panophthalmitis in man, on the condition that they are introduced into the vitreous body. As the bacilli come from the soil, the special danger that belongs to wounds received during the

course of agricultural work is explained. The author admits that organisms other than the *B. subtilis* may cause panophthalmitis. Indeed, he quotes Sattler as having found bacillus pyocyaneus, and Perles bacilli "of the size of *B. typhosus*" in such cases. Moreover, in a certain number of other cases diplococci and pseudo-diphtheritic bacilli have been demonstrated.

Flatau, G.—A contribution to the etiological study of panophthalmitis. (*Beitrag zur Aetiologie der Panophthalmie.*) *Zeit. f. Augenheilk.*, Marz, 1903.

The study made by Flatau of three cases of panophthalmitis from a bacteriological point of view confirms the important and serious part played by the pneumococcus in the etiology of infected wounds of the eye. Flatau notices the fact that cultures of the pneumococcus are obtained with great difficulty, inasmuch as the microbe appears to have lost in the ocular media some of its capacity to grow. This observation may explain many negative results.

Revue générale d'ophtalmologie, octobre, 1903.

Meyer, Paul.—Ophthalmological considerations with regard to the intravenous injection of Collargol into rabbits. (*Ophthalmologische Betrachtungen im Anschluss an intravenöse Kollargol-Einspritzungen bei Kaninchen.*) *Centralblatt f. prak. Augenheilkunde*, Juli, 1903.

Meyer has made some interesting and suggestive experiments on rabbits for the purpose of determining what influence, if any, the intravenous injection of Credé's collargol has upon the course of an inoculation panophthalmitis. Three rabbits were selected, A, B, and C. The vitreous of A and B was inoculated with a bouillon emulsion of a pure culture of the hay bacillus (*B. subtilis*). 1 c.cm. of a 5% collargol solution was injected into the veins of the rabbit B. From the second day onwards, A and B had 1 c.cm. to 2 c.cm. of collargol injected daily. In the course of twenty-four hours, symptoms of typical panophthalmitis appeared in both A and B, but the symptoms were less severe in B than in A. The inflammation in both instances receded very quickly, and the animals remained in good health. On the fourth day after the last collargol injection had been made, the affected eyes were enucleated, and examined bacteriologically. A pure culture of the *B. subtilis* was obtained from the vitreous humour, which was opaque, of greyish colour, shrunken, and more or less organised. The vitreous of rabbit C was inoculated with *B. subtilis*, but collargol was not used. A violent panophthalmitis was the result. This led to softening of the eyeball, and

the animal succumbed. The eye was removed eighteen days after inoculation. A pure culture of the *B. subtilis* was got from the vitreous humour. The vitreous was of an opaque yellow hue, and liquified in parts.

As the outcome of the experiments outlined above, Meyer is not prepared to make any extravagant claims as to the practical value of collargol injections in panophthalmitis. It is, nevertheless, possible that a panophthalmitis caused by micro-organisms less resistant than the hay bacillus may be hindered or even stopped in its course by early treatment. In any event, the experiments open out an interesting field for observation. Meyer hints that affections such as *ulcus serpens* and sympathetic ophthalmitis may be benefited by injections of collargol.

De Schweinitz, G. E., and Shumway, E. A.—On the histology of Bullous Keratitis in glaucomatous Eyes. *Archives of Ophthalmology*, May, 1903.

De Schweinitz and Shumway relate two cases of glaucoma, one primary and the other secondary, associated with the formation of bullæ on the cornea, where the affected eyes were enucleated and submitted to microscopical examination. The bullæ were found to be formed within the anterior epithelium of the cornea. The basal cells of that layer showed changes, in that they were polygonal and not cylindrical in shape. In one of the cases a homogeneous layer of tissue, 7μ . to 9μ . in thickness, originating from pannus tissue at the limbus, ran in arcades through the epithelium, but it took no part in the formation of the walls of the central bulla that was present. It is pointed out that the fluid contained in the bulla may come from (a) a stasis of the lymph circulation, (b) increased transudation of the capillaries of the corneal limbus, or (c) the fluid of the anterior chamber. The fluid which cannot be drained away because of the obstruction of the lymph channels, forces its way through the widened nerve canals in Bowman's membrane, or (as Brügger believed) through parts of the membrane weakened by absorption, produces an inter-epithelial œdema which causes the cells to degenerate and to loosen their hold on Bowman's membrane, and raises the epithelium in the form of bullæ.

Pusey, Brown.—Cytotoxins and sympathetic Ophthalmia. *Archives of Ophthalmology*, July, 1903.

Basing his theory upon recent experimental work with regard to the production of heterotoxins, isotoxines, and allied bodies, Pusey suggests that when a damaged eye degenerates in the orbit, the cells of the organ can give rise to

a specific cytotoxin. The latter, circulating in the blood, picks out, so to speak, the cells of the fellow eye, and thereby produces those changes collectively known as sympathetic ophthalmitis. In the hope of obtaining a heterogeneous toxic serum, the author made a somewhat complicated experiment, into the details of which we need not enter, since its results were negative.

Gourfein.—The diagnosis of Tuberculosis of the Iris, by puncture of the anterior chamber and its treatment. (Du diagnostic de la Tuberculose de l'iris par la ponction de la chambre antérieure et son traitement). *Rev. Méd. de la Suisse romande*, 20th avril, 1903.

Gourfein comments upon the many difficulties which attend the clinical diagnosis of tubercle of the iris. He then examines, turn by turn, the different methods of diagnosis placed at our disposal by the laboratory. The anatomical plan, he thinks, has lost much of its value since the diagnostic importance of the giant-cell has been doubted. Inoculation is a certain test, but it is often dangerous to adopt, inasmuch as an iridectomy must be performed, no easy thing in these cases. The finding of the specific bacillus in the affected tissues is proof positive, but a failure to do so does not invalidate the diagnosis. Lastly, tuberculin may be injected, but this means is perhaps less certain and even more dangerous than the ones enumerated above. Under these circumstances, it has occurred to Gourfein to utilise the aqueous humour for the diagnosis of tuberculous iritis. Its virulence is determined—first, by inoculation of rabbits, and, secondly, by the production of cultures when the liquid is implanted on potato media. This plan has been successfully adopted in two cases, into the details of which the author enters at some length. All the animals whose anterior chamber had been inoculated with the suspected aqueous humour, collected by paracentesis, manifested later a granulous iritis, in which the specific bacilli were found. It must be remembered, however, that the appearance of the iritis may be delayed for two months or more.

Gourfein does not believe that the treatment of tuberculous iritis can in any sense be medical. Accordingly, he has recourse to surgical means. He quotes certain results obtained by the tuberculin T. R. of Koch, as tending to show that no single case, proved by inoculation to be one of tuberculosis of the iris, was cured. He is of opinion that provided the patient is young, and the ocular tuberculosis primary, immediate enucleation should be practised. Experience has shown him

that of the animals inoculated only those escaped the generalisation of the virus whose eyeballs were removed. At the same time, we may point out that the conditions as regards tuberculous iritis in rabbits and in human beings are scarcely comparable. In the former the disease is experimental and primary, so that prompt removal of the affected eyeball would almost certainly prevent generalisation. In the latter, however, it is questionable whether tubercle of the iris is ever primary—that is to say, it represents a generalisation of the tubercle bacilli. Gourfein's recommendations with regard to treatment are, from this point of view, somewhat weakened.

Reimar, M.—The ophthalmoscopic appearance of the Ora Serrata and the Ciliary processes. *Archives of Ophthalmology*, March, 1903.

Reimar has examined the region of the ora serrata in eyes from which cataract had been removed by the so-called combined operation. He describes the ophthalmoscopic appearances of this part of the eye. The periphery of the fundus is characterised by a diminution of the pigmentation, so as to appear pale-red, while the choroidal vessels are few in number and meridional in course. The ora serrata is represented by a pigmented band forming regular arcades of pigment extending forwards. The orbicularis ciliaris manifests itself as a pale-red area showing numerous fine, irregular, yellowish-white stripes, and choroidal vessels running in a meridional direction. The ciliary processes are seen under the guise of peculiar forked processes of pigment. The root of the iris may be recognised as a dark shadow. Reimar, like Magnus (*Archiv. f. Ophth.*, XXXV., 3, 1, 1889), has often found pigmentary and atrophic changes in the periphery of the fundus, above all in cases of high myopia.

Wicherkiewicz, B.—On a Mycotic Affection of the Cornea. *Archives of Ophthalmology*, January, 1903.

A woman, aged 23 years, was struck in the eye by a piece of dirt whilst engaged in digging potatoes. Three weeks later there was a red ring around the limbus, the eye was somewhat congested, and the cornea was covered by a tough, circular, homogeneous mass, of yellowish-white colour. The mass had a diameter equal to half that of the cornea, an irregular outline, and an elevated and uneven surface. Hypopyon was present. No affection of the tear-passages. T.n. V. = p.l. Twelve days later the superficial layers of the circular mass were shaved off with a Graefe's knife. The patient was lost sight of soon afterwards. The mass removed by operation was

found to contain a fungus belonging to the penicillium glaucum variety. The author concludes his paper with a reference to cases of mycosis published by Leber, Uhthoff, and Fuchs.

Harman, N. Bishop.—A minimal form of Fissura Facialis. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Harman describes two cases where a tiny opening existed on either side of the bridge of the nose just below the inner canthus. These he regards as representing a minimal form of the facial fissure, *i.e.*, a small deficiency in the union of the lateral, nasal, and maxillary processes, which, with the fronto-nasal process, go to form the face.

II.—DISEASES AND INJURIES OF THE EYE AND ORBIT.

Caspar.—Lattice-like marking on the Cornea after injury to the Eye. (Gitterförmige Hornhauttrübung nach Augenverletzungen.) *Klin. Monatsbl. f. Augenheilkunde*, October 13, 1903.

Caspar draws attention to a particular opacity of the cornea following a trauma. Although this condition is not uncommon, yet it has hitherto escaped description. He has been enabled to follow three cases in detail. The lattice-like appearance did not make its appearance for at least a week after the injury. It was not connected with the injured spot, but was usually situated in the centre of the cornea. The stripes lay immediately below the epithelium. The surface of the cornea was slightly raised by tiny, knob-like swellings, and the latter were the only parts that stained with fluorescein. The stripes eventually disappeared without leaving cicatrices. Caspar assumes the cause of the appearances to lie in a flattening and distortion of the cornea, giving rise to the formation of longitudinal grooves.

A. BIRCH-HIRSCHFELD.

Hillemanns.—On injuries to and protection of the Eye in the iron and steel industries. (Ueber Augenverletzungen u. Augenschutz in der Eisen u. Stahlindustrie.) *Klin. Monatsbl. f. Augenheilk.*, October 13, 1903.

Hillemanns gives a clear and detailed account of the various kinds of protective spectacles which he thinks necessary in and suitable for different callings. He especially recommends the use of wire gauze spectacles, with or without glass, in the iron and steel trades. He lays stress on the fact, however, that no single kind of protective appliance is suitable for all

purposes. This leads him to recommend that different kinds of patterns should be laid before the workmen for their choice.

A. BIRCH-HIRSCHFELD.

Asmus.—Some observations upon cases of acute Sclero-keratitis Rheumatica. (Beobachtungen über akute Fälle von Sklerokeratitis Rheumatica.) *Klin. Monatsbl. f. Augenheilkunde*, September 25, 1903.

Asmus has observed thirteen cases of acute rheumatic sclero-keratitis, which were characterised by groups of deep-seated corneal infiltrations near the limbus, pericorneal injection, and frequent spread to the iris. In every case sodium salicylate effected cure within a short time.

A. BIRCH-HIRSCHFELD.

Werner, L.—A case of Intra-Ocular Echinococcus Cyst with brood capsules. *Trans. Ophthalmological Society*, vol. XXIII, 1903.

Seven months before he came under Werner's notice, a farm labourer, aged 28 years, found that he could not see the upper half of any object with his left eye, the sight of which then gradually failed altogether. When examined, there was a degree of ciliary redness, a slight staphyloma of the anterior part of the eye, and a crescentic blue line in the ciliary region resembling a sub-conjunctival rupture of the sclera. The iris was atrophic and adherent in its outer half to the lens. A greyish-white, fluffy opacity was deeply situated in the pupillary area, presumably in the crystalline lens. No red reflex from fundus: V. = no perception of light. The condition suggested the existence of an intra-ocular tumour, and this led Werner to remove the eye. Upon opening the globe, a cyst was found, extending from the lens in front to the optic nerve behind. Its delicate wall was closely applied to the retina. A number of spherical, opaque, white bodies, none exceeding a pin's head in size (subsequently found to be brood capsules) occupied the inner surface of the lower half of the cyst. Microscopically, it was seen that the cyst was subretinal, and not situated in the vitreous, as at first thought. The cyst, which was a typical echinococcus, consisted of two layers, an outer, thick and elastic, and an inner, delicate, and composed of a finely granular substance, containing many nuclei. In some of the brood capsules, as many as fifteen echinococcus heads, or scolices, could be counted.

Werner remarks that although many cases of echinococcus in the orbit have been reported, and cases of intra-ocular cysticercus are not very rare, yet the literature contains two

cases only which are described as intra-ocular hydatids, namely, those by Hill Griffith (*Trans. Ophthalm. Society*, Vol. XVII, p. 220), and Gescheidt (*Zeits. f. die Ophth.*, Bd. III., p. 437).

Oppenheimer, E.—Nævus pigmentosus of the conjunctiva and cornea. *Deutsche Med. Woch.*, 1903, No. 7, p. 143.

Oppenheimer found in an old man a melanoma of the conjunctiva. The growth had been present since birth, and was not increasing in size. The black mass was soft and lobulated, one mm. in thickness, and occupied two-thirds of the cornea.

Morton, A. Stanford, and Parsons, J. Herbert.—Hyaline bodies (Drusenbildungen) at the Optic Disc. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

Morton gives brief notes of the two following cases of hyaline bodies at the optic disc. (1) A male, 24 years, complained of night-blindness. R.V. = $\frac{3}{80}$; L.V. = $\frac{6}{24}$. He was found to suffer from retinitis pigmentosa with hyaline bodies at each optic disc. His parents were cousins. One sister had retinitis pigmentosa, and one uncle night-blindness. (2) A female, aged about 20 years, complained of difficulty in near-work. No retinitis pigmentosa or night-blindness, but distinct pallor of discs with hyaline bodies at each papilla. Her parents were second cousins.

Parsons then takes up the subject of hyaline bodies, which he discusses from various points of view. The condition, a rare one, usually begins in early life, and runs an extremely chronic course. Sex is probably of no ætiological importance. As a rule, both eyes are affected, although often to an unequal degree. The optic disc, in such cases, is seen to be swollen to 12 D. or 14 D., so that the first impression usually is that the case is one of optic neuritis. The swelling is due to masses of small, translucent nodules, which generally surround the vessels at their exit from the disc. Now and then they are situated at the edges of the disc, which they obscure. They may invade the neighbouring retina for a short distance. In many of the cases there has been a coincident retinitis pigmentosa, or small deposits of pigment in the peripheral parts of the fundus. Diminution of light—and colour—sense, with contraction of the fields, is a feature in many of the cases, and Parsons surmises that some of these are probably instances of the unpigmented type of retinitis pigmentosa. Injuries appear to bear a relationship to the hyaline condition, although exactly of what kind it is difficult to determine. In some of the cases there have been various nervous disorders, a remark that applies also to nephritis. But when all is said and done, hyaline bodies are often met with in patients who

show no affection either of the eyes or of the general health. Prognosis may be considered as good.

Various pathological views have been held with regard to the nature of these *Drusen*, as, for example, that they are colloid, myelin, or hyalin bodies, or that they are calculous nodules or *Kalkmetastase* (Wedl and Bock). These and other views are examined by Parsons, who absolutely rejects the theory that they are of colloid nature, and concludes that they consist of hyaline—that is, an albuminous exudation undergoing gradual chemical changes, and capable of being calcified or ossified.

Jellinck, S.—Injuries from Lightning. *Wiener Klin. Wochenschrift*, 1903, No. 6.

Jellinck's observations are based upon the study of three cases. The first was a peasant who was severely injured and who complained of seeing sparks before his eyes, even when shut, accompanied by pain, and immediately afterward the room would seem as though enveloped in a fog or cloud. Externally there was nothing to be seen. The second patient showed the following symptoms:—In one eye there was a subconjunctival hæmorrhage. The lower half of the cornea of this eye was very cloudy, and closer inspection showed that there were a number of fine, deeper, opaque spots, which were also situated in the cloudy area. Ciliary injection was present. There was also sluggishness of the pupil. The patient complained of a contracted feeling in the eyeball. He recovered entirely. The third was a girl, and after the stroke she was delirious for forty-eight hours. There was left-sided ptosis, and narrowing of the left pupil, which acted, even reflexly, very sluggishly. Accommodative re-action was present. When the patient was seen eight days later these symptoms had disappeared, although she still complained of some irritative symptoms in that eye. Externally there was nothing to be seen.

Annals of Ophthalmology, April, 1903, p. 251.

Topolanski.—Lightning stroke and ocular hæmorrhages (*Blitzschläge und Augenblutung*). *Wiener Klin. Rundschau*, 1903, No. 22.

In a patient who had been struck by lightning, Topolanski found blood in the anterior chamber of one eye and hæmorrhage into the vitreous of the other. The former was quickly absorbed, but the latter took considerably longer. The hæmorrhage without doubt resulted from the lightning. In a second patient, there was a conjunctival ecchymosis in the right eye together with hyphæma, whereas in the left eye

there was a lacerated wound at the outer canthus. It was eventually found that the lacerated wound did not originate from the lightning. The lightning had struck a tree, a branch from which had injured the patient's eye. A piece of wood, 3 cm. long, was found embedded in the skin of the forehead, and the wound at the canthus was discoloured by the bark.

Centralbl. f. prak. Augenheilkunde, August, 1903.

Collins, E. Treacher.—**Partial atrophy of the Optic Nerves, caused by lightning.** *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A man, 49 years of age, noticed a mist before his eyes the day after he had been struck and dazed by lightning. Collins found V. equal to counting fingers at two feet, atrophy of the outer half of each optic disc, and great contraction of the field of vision for white. Neither green nor red could be distinguished. There was also facial paresis and nerve-deafness on the right side. The knee-jerks were slightly exaggerated. No history of syphilis, and no abuse of tobacco. Collins concludes that the failure of sight and the atrophic discs in this case are due to lightning. He points out that lightning may produce its effects in several ways: (1) by the effect of the heat rays; (2) by the effect of the chemical rays; and (3) by the effect of electrolytic action or concussion.

Stood, W.—**On recurrent formation of Vesicles on the Cornea and Keratalgias after injuries of the surface of the Cornea.** *Archives of Ophthalmology*, January, 1903.

Stood discusses that class of case described first by Arlt under the name *Erosio Corneæ*—that is to say, where some time after a superficial injury to the cornea, the patient experiences pain, photophobia, and lacrymation, with or without the formation of a clear vesicle or vesicles over the injured spot. The symptoms are invariably most marked on awaking from sleep. The epithelial changes tend to disappear in the course of a few hours. Various views have been held with regard to the pathogenesis of the condition. One of the most popular affirms that there exists a traumatic neuritis of the nerve-endings with consecutive trophic disturbances in the cornea. Stood himself seeks the explanation in a changed relationship between the corneal epithelium and Bowman's membrane. The deepest layer of the epithelium normally adheres to Bowman's membrane by means of little processes (Rollett, Lott, and Langerhans). He assumes that the original injury not only strips off the epithelium but also crushes the anterior parts of Bowman's membrane. New epithelial cells pushing in from the margin of the epithelial defect find an

altered base, to which their adhesion is less strong. The newly-formed epithelium rests simply upon Bowman's membrane, and at night it becomes attached to the lid, and is loosened and its nerve-endings injured when the latter is opened. Then there follows a passage of liquid from the parenchyma of the cornea through the nerve-canals in Bowman's membrane, so that a vesicle is formed. As to treatment of the condition, Stood removes the walls of large vesicles, and applies an antiseptic dressing. He recommends 1 per cent. yellow ointment or boric acid in lanoline to be rubbed into the eye at bedtime. Special care must be taken to open the lids very gradually and gently after sleep.

Weill and Gallavardin.—**Acute Optic Neuromyelitis.** *Lyon Méd.*, August 9, 1903.

Weill and Gallavardin record a case of acute diffuse myelitis with double optic neuritis. Their patient, a child 14 years of age, first suffered from paralysis of the right leg. Eight days later the left leg became paralysed, and three weeks after the onset of the illness incontinence of urine and fæces and a sacral bed sore appeared. The paraplegia was complete, and there was in addition absolute anæsthesia—tactile, painful, and thermic—which extended above the level of the umbilicus. The cutaneous and deep reflexes were abolished. Bilateral amaurosis, which became total in a few days, came on about six weeks after the onset of the illness. The ophthalmoscope showed it to be due to active optic neuritis without hæmorrhage or retinal exudation. The vision improved a little before death, which resulted from broncho-pneumonia. At the necropsy the spinal cord was found to be flattened, yellow, and anæmic in the lower dorsal and lumbar regions. Examined microscopically the cord was seen to be infiltrated with round cells; the cells of the anterior horns showed various degrees of chromatolysis or complete atrophy, and in places cavities were found containing softened debris of nerve fibres. Sections of the brain showed an abundant infiltration of round cells, more marked in the white than in the grey matter. The optic nerve and also the sciatic nerves were also infiltrated with small granular cells which interrupted the nerve fibres. The involvement of the white matter of the brain has not been recorded before, and in the only other case in which the brain was examined histologically, Dreschfeld found no cerebral lesion. The explanation of the occurrence of optic neuritis together with acute myelitis is not easy. The etiology of the case recorded above was unknown. It seems reasonable to suppose that in acute inflammatory lesion, attacking the nervous system, just as in chronic nervous

diseases like locomotor ataxia the spinal cord and the optic nerves are especially the seats of election.

British Medical Journal, Sept. 12, 1903.

Clarke, Ernest.—Blood in the anterior chamber, with staining of the Cornea, simulating dislocation forward of the lens. *Trans. Ophthalmological Society*, Vol. XXIII, 1903.

A lad, aged 17 years, was blinded by a kick in his right eye six weeks before he fell under Clarke's notice. Upon examination, V. = no p.l.; tension slightly raised; no pain; anterior chamber full of blood, except towards the centre, where there was a circular area, of brownish-yellow colour. This central patch, which measured 6 mm. across, presented a remarkable resemblance to a small lens dislocated into the anterior chamber, and lying against the posterior surface of the cornea. During the period the patient has remained under observation, the central corneal area has diminished in size, and fresh hæmorrhages have occurred into the anterior chamber.

Baum, Wm. L.—Toxic Amblyopia from oil of wintergreen. *Ophthalmic Record*, January, 1903.

A salesman, 28 years of age, was affected with gonorrhœal arthritis, for the relief of which twenty drop doses of oil of wintergreen were prescribed every two hours. After taking the medicine for two days, the patient complained of headache, tinnitus, dizziness, yellow vision, and of inability to see well. The oil was discontinued, and the colour perception became normal about the fifth day. The patient had taken altogether about 24 c.c. of the oil in forty-eight hours. The clinical details of Baum's case are unfortunately meagre.

Wing, P. B.—Report of a case of toxic amblyopia from coffee. *Annals of Ophthalmology*, April, 1903.

The sight of a lad, eight years of age, had been failing for about six months before the patient was seen by Wing. Optic discs "much congested, retinal veins large and arteries small, vision $\frac{2}{200}$, and visual fields concentrically contracted to within 20° from the fixation point." The existence of a colour-scotoma is not noted. No history of tobacco smoking, but the lad drank six to eight cups of strong coffee daily. The coffee was interdicted, and strychnine given internally. Five weeks later, vision was $\frac{2}{18}$, and the field of vision was considerably larger. It is impossible to help suspecting, on reading the notes of Wing's case, that the patient was affected with *amblyopia nervosa*.

Luniewski, E.—Two cases of traumatic enophthalmos.
(Dwa przypadki wgłobiensia galki ocznej pochodzenia
urazowego.) *Postęp Okulistyczny*, No. 2, 1903.

Luniewski has observed at the Kolomyja Hospital two cases of traumatic enophthalmos. In the first a blow from an umbrella, and in the second a kick from a horse had caused the lesion in question. The author distinguishes between enophthalmos complicated with fracture of the bony walls of the orbit and one not so complicated. He admits two possible ways in which the lesion may be caused: 1st, the traumatism may drive in the globe mechanically by direct action; 2nd, it may bring about enophthalmos through the intermediation of innervation, indirectly. Enlargement of the orbital cavity is possible only in cases complicated with fracture, or when the contents of the orbit have become shrunken, as, for example, by the contraction of cicatricial tissue. In cases of indirect causation one must admit the existence of small intravaginal hæmorrhages of the nerves situated in the orbital cavity, with partial destruction of the nervous filaments. Maklakoff even presumes the rupture of the ophthalmic artery, an hypothesis that, according to the author, is not applicable to every case. It is known that division of the cervical portion of the sympathetic determines, among other symptoms, enophthalmos and slight ptosis. A certain narrowing of the palpebral fissure, due to the drooping of the upper lid, existed in the author's two cases, and this is suggestive of a sympathetic lesion. In the first case, where immediately after the injury there was a protrusion of the eye which was replaced by enophthalmos only at the end of several weeks, the author supposes a hæmorrhage with consecutive retraction of the retrobulbar tissues. In the second observation he supposes that there was compression or even rupture of the sympathetic fibres and of other nerves, for example: the oculo-motor, since he found along with the other symptoms dilatation of the pupil and weakening of the accommodation.

K. W. MAJEWSKI.

Neese, E.—Œdema of the lids in tertiary syphilis. (*Oedem der Lider bei tertiärer Syphilis.*) *Klin. Monatsbl. f. Augenheilkunde*, 1903.

Neese describes bilateral œdema of the eyelids in a case of tertiary syphilis. In the case of one eye this was caused by a gumma of the cellular tissue of the lower lid. In the other eye it resulted from a gumma lying in the depths of the orbit, obstructing the veins carrying away blood from the eyelids.

Barrett, James W. and Orr, W. F.—Vascular remains in Corneal disease. *Intercolonial Medical Journal of Australasia*, Aug. 20, 1903.

Barrett and Orr publish details and pictures of fourteen cases where fine vessels, superficial or deep, were present in the cornea. The communication ends with the following statement: "It seems to us that the physician who deals with a case of an adult, and is suspicious of the existence of hereditary syphilis, should, as a matter of routine, examine the cornea with a +12 or +20 lens. The physician who does not do so fails to use an effective diagnostic method."

Lauder, Edward.—Paralysis of the external recti muscles appearing after a blow on the skull. *Ophthalmic Record*, May, 1903.

Lauder reports three cases where paralysis of the external recti muscles appeared at once or some time after an injury to the skull. Such cases, he points out, are not very rare. The VI. nerve is the one most frequently involved, but other cranial nerves, particularly the V., VII., and VIII., may be affected. Paralysis of the VI. nerve may exist without coma or the usual symptoms of fracture of the base of the skull. Primary paralysis (the prognosis of which is unfavourable) is due to direct injury of the nerve by the fractured bone, while secondary paralysis (the prognosis of which is better) is due to compression of the nerve by hæmorrhage, inflammatory exudation, or the formation of callus.

Bruner, William Evans.—Sarcoma of the Choroid in a Child. *Ophthalmic Record*, July, 1903.

A child, aged about six years, suffered from a sarcoma of the choroid which had invaded the orbit and produced marked proptosis. As the pupil was filled with lymph, the case had been mistaken for an inflammatory condition. Bruner exenterated the orbit. Eighteen days later a small secondary growth was discovered on the frontal bone, and later another growth developed on the jaw. The child died just four months after the operation. The author comments upon the rarity of sarcoma in young children.

Lodato, G.—Blepharochalasis. (Blefarocalasi.) *Archivo di Ottalmologia*, 1903, vol. II, fas. 1-2, p. 42-82.

Lodato contributes a clinical and pathological study of the rare affection of the eyelids called by Fuchs "blepharochalasis." This essentially consists in an alteration of the skin of the upper eyelids. The skin is very thin, devoid of all elasticity, somewhat red and flabby, more or less pendulous

and folded, and cannot be raised with the eyelid, so that in this latter respect the condition resembles ptosis. Lodato passes in review the cases published by Fuchs, Businelli, Fehr, Coppez, Pick, Dalein, Schmidt-Rimpler, and Rohmer. The author insists upon the existence of nervous changes provoking an alteration in the walls of the vessels, so that the last in their turn become the cause of trophic disturbance in the skin.

A. ANTONELLI.

Hirschberg, J.—A case of Barlow's disease. (Ein Fall von Barlow'scher Krankheit.) *Centralbl. f. prak. Augenheilkunde*, Juli, 1903.

Hirschberg has observed hæmorrhage into the orbit in a case of scurvy-rickets, or, as it is generally named in Germany, Barlow's disease. The patient was a little girl nine months old, and the eye condition had been present for five days before Hirschberg saw the case. The right eye was markedly protruded, and there was a trace of blood visible on the eyelids. The pupil reacted, and the fundus was normal. The child was pale, and subject to headsweats. There was a hæmorrhage on the outer side of the right knee. The condition of the gums is not mentioned. During the course of the case some conjunctival, retinal, and cutaneous hæmorrhages made their appearance. Under suitable diet, the child made a complete recovery in seven months.

Lange.—A case of traumatic cyst of the ocular conjunctiva. (Zur casuistik der Traumatischen Cysten der Conjunctiva.) *Kl. Monatsbl. f. Augenheilk.*, XLI. II., p. 199.

Lange's case was that of a man who had injured one eye with a screw-driver. Some seven months after the accident the patient presented a yellowish, transparent, cystic tumour in the upper nasal quadrant of the ocular conjunctiva. Lange assigns the origin of the cyst to a traumatic penetration of the epithelium. Unfortunately the cyst was not examined anatomically after removal.

A. BIRCH-HIRSCHFELD.

III.—THERAPEUTICS, OPERATIONS, INSTRUMENTS, AND APPLIANCES.

Panas, P.—Asepsis and prophylaxis in Ophthalmology. *Archives d'Ophthalmologie*, janvier, 1903, and *American Journal of Ophthalmology*, March, 1903.

Panas, in the course of a most interesting article, shows that antiseptic precautions of some kind in operations upon the eye

date from very early times. The fluids employed for this purpose included sea-water, rose water, decoction of Grecian hay, and honey or hot honey water. After the removal of hypopyon, the ancient Arabs recommended an injection of warm honey water into the anterior chamber. The apparent slowness of ophthalmic surgeons to adopt the teachings of Lister, was due, Panas thinks, to the irritating nature, as regards the eye, of the antiseptic at first employed, namely, carbolic acid. Antisepsis, however, found a definite place in ophthalmology as soon as the virtues of the mercuric salts became widely known. The terms "antisepsis" and "asepsis" are not opposed to one another, although the latter should nowadays be preferred.

The following represents, in brief, the aseptic measures recommended by Panas for operations upon the eye. The lids must be cleansed by soaking the skin with a pledget of cotton, sterilised boiled water, and soap. They must then be rubbed with cotton very slightly moistened with ether. The free borders of the eyelids are best cleansed by vigorous rubbing with sterilised cotton dipped in oleate of biniodide of mercury (4 : 1,000), an agent that causes little irritation, and is an absolute bactericide, if allowed to act for several hours. This region should be rendered aseptic the evening prior to an operation for cataract, and the part should be kept covered with a sterilised pad and bandage until the moment for operation. The conjunctival sac is thoroughly washed out with a watery solution of a mercuric salt, some instrument terminating in a nozzle being employed for the application. Attention must be paid to even the mildest form of dacryocystitis, a remark that applies equally to any affection of the neighbouring cavities, as the naso-pharynx and the various sinuses. Maxillo-dental lesions, also, must not be overlooked. Every collyrium must be perfectly aseptic, and as little irritating as possible. In this latter respect nothing surpasses the oily solutions of the alkaloids. Operators and assistants must wash their hands with soap and water, brush them well with a scrubbing brush, and immerse them in a mercuric or phenic solution. All instruments must be dipped into boiling, sterilised water, containing a little sodium bicarbonate, in order to prevent rusting. Bandages, compresses, and silk sutures must be sterilised by steam at a temperature of 120° for at least half an hour. Gut sutures are to be kept continuously in chloroform, or a solution of benzo-naphthol. Absorbent wool, whether in roll or pledgets, is sterilised by exposure to a temperature of 150°. The various dressings, etc., must be handed by ring-forceps just taken from boiling water. After operation, Panas immobilises

every cutaneous or corneal flap, and to this end pays the greatest attention to the even filling-up of the parts over the eye with cotton pledgets, one of which he always places in the hollow between the eye and the root of the nose. The bactericidal action of the tears (maintained by Bach, Valude, and others) remains, according to Panas, undecided.

The remainder of the article is taken up with the consideration of antiseptics in the treatment of injuries of the eye, and so forth. It may just be added that Panas attaches great importance to the employment of mercury in plastic and suppurative inflammations of the eyeball. He uses intramuscular injections of an oily solution of biniodide of mercury (4 : 1,000), of which 1 c.c. is injected daily, preferably into the buttocks.

Weill, N. J.—**Intra-ocular injections of sterilised iodoform into the anterior chamber in tubercular iritis.** *The American Journal of Ophthalmology*, April, 1903.

Following the example of Professor Haab, Weill tried the injection of iodoform in a case of tuberculous iritis in a man, aged 21 years, without tuberculous or syphilitic antecedents. The result was encouraging. It may be as well to add, for purposes of reference, the method of sterilising iodoform before the latter is placed in the anterior chamber: "Place the iodoform in a 3 per cent. solution of carbolic acid for forty-eight hours. Pour the acid off. Plug the receptacle with sterilised cotton; put it in an oven with a constant temperature of 40 C. to dry." It is a little unfortunate that the diagnosis made by Weill was not confirmed bacteriologically, although this might readily have been done, since some bits of iris were removed from one eye by iridectomy.

Dalén, Albin.—**Transfixion of the Iris.** (**Om transfixion af Iris**). *Hygiea*, April, 1903.

Transfixion of the iris—an operation introduced by the late Sir William Bowman—has been used by Fuchs in seclusion pupillæ with bulging of the iris. Dalén narrates three cases operated on by this method at the Stockholm Serafimerlazaret. The first case was in an elderly woman, who had been operated upon for cataract without iridectomy. Iritis occurred, and a secondary cataract resulted. Vision—0·1. A year later the patient returned with bulging of the iris, increased tension, and quantitative vision. Dalén then performed transfixion of the iris, using a Graefe knife for the purpose. On the following day, tension was normal, and the bulging of the iris was no longer present. Vision—0·1, increased later to 0·25. The second case was one of glaucoma coming on after the

discission of a secondary cataract. Iridectomy was tried, but did not succeed, owing to a prolapse of the vitreous humour. Glaucomatous symptoms reappearing, transfixion was done, after which tension fell to normal, and the patient could see fingers at a distance of from one to two metres. The third case was one of secluded pupil due to old sympathetic ophthalmitis. There was bulging of the iris, increased tension, and vision varying from 0.2 to 0.6. After transfixion of the iris, the symptoms of glaucoma disappeared, and sight rose to 0.8.

Dalén is of opinion that transfixion is to be preferred to iridectomy in glaucoma, following needling of a secondary cataract, because it is a less dangerous proceeding. Moreover, the method should be tried in many other conditions. If it is done in an eye containing the crystalline lens, great care should be exercised, but one may avoid wounding the lens by giving the blade an inclination with the edge forward.

J. WIDMARK.

De Wecker, L.—The antiseptic tattooing of the Cornea.
Archives of Ophthalmology, May, 1903.

De Wecker, who, as everybody knows, introduced the plan of tattooing leucomata of the cornea, points out that the finer varieties of Indian ink only should be employed for the purpose. He uses one instrument, namely, a broad needle. For years he has used a 1:2,000 sublimate solution for mixing the ink, but lately he has adopted the plan of placing the ink paste in a hot-air steriliser before applying it to the cornea.

Ahlström, Gustav.—On the wearing of an artificial eye.
(*Zum Prothese-Tragen.*) *Centralbl. f. prak. Augenheilkunde*, October, 1903.

After discussing the disadvantages of the ordinary artificial eye, Ahlström describes a simple device for bettering the look of the prothesis. A hollow glass ball, 10mm. to 15mm. in diameter, is placed in the orbit, and over that is put a Snellen "reform" or other artificial eye. The contrivance is said to be comfortable, and to retain its place well in the orbit. The glass balls, it may be added, are made by Müller Söhne of Wiesbaden.

Goldzieher, W.—The treatment of corneal ulcers of blennorrhagic origin. (*Beitrag zur Behandlung blennorrhöischer Hornhautgeschwüre.*) *Klin. Monatsbl. f. prak. Augenheilk*, September, 1903.

In the course of the year 1901 Goldzieher has met with no

less than seventy-one cases of blennorrhagia in the eyes of grown-up persons. Potassium permanganate was not sufficient to obviate corneal lesions, and the author has treated ulcers of the cornea, with or without perforation, by covering them with a flap of conjunctiva dissected up for the purpose. (See OPHTHALMOSCOPE, August, 1903, page 58).

Revue générale d'ophtalmologie, octobre, 1903.

Galezowski.—Ocular therapeutics and formulary. (Thérapeutique oculaire et formulaire.) *Recueil d'Ophtalmologie, octobre, 1903.*

Under the above general heading Galezowski draws attention to a couple of important means of treating arthritic and rheumatic affections of the eye, namely, by the use of adrenaline and of asapol. The latter remedy—a salt of B-naphtholmonosulphonic acid—is employed internally in doses of $\frac{1}{2}$ to 1 gramme daily; as a collyrium containing asapol, 10 centigr., eserine sulphate, 5 milligr., and distilled water, 10 grammes; and, finally, as compresses of 20 centigr. of asapol to 100 grammes of distilled water.

H. DE V.

IV.—MISCELLANEOUS.

Kuwahara, Y.—Upon living leeches in the conjunctival sac of the human eye. (Ueber lebende Hirudineen im Bindehautsack des menschlichen Auges.) *Centralbl. f. prak. Augenheilkunde*, September, 1903.

Kuwahara reports two cases where living leeches were found in the conjunctival sac in natives of Japan. In the first case, which occurred in a man, 18 years of age, a black foreign body was seen near the outer canthus of one eye. Upon examination, a leech, 2.7 cm. in length, was found to be attached to the upper cul-de-sac by means of its suckers. Some little difficulty was experienced in removing the creature until cooking salt had been applied to its head. The second case was met with in a girl, 10 years of age, who suffered from photophobia, lachrymation, and slight pain in one eye. A leech, 2 cm. long, was removed from the lower cul-de-sac. The conjunctiva was inflamed, and showed several scars.

Bocci, D.—A case of acute poisoning by aniline oil. (Sopra un caso di avvelenamento acuto da olio di anilina.) *Archivio di Ottalmologia*, V. X, fas. 7 and 8, 1903.

Cases of poisoning by aniline oil are very rare. As regards nitro-benzol, employed in aniline factories, that product is

less dangerous than dinitro-benzol, used in the manufacture of roburite, an explosive employed in mines. Nitro-benzol and dinitro-benzol may give rise to grave symptoms, as cyanosis, vertigo, anæmia, headache, blood changes, etc., associated with ocular symptoms, such as those described by Nieden, Simeon Snell, Pockley, and Uthoff.

Bocci's case occurred in a dyer of 35 years, who became acutely intoxicated after having decanted aniline oil during the whole of one morning. When examined about twenty days afterwards, vision was found to be reduced to $\frac{1}{2}$ normal, there was a considerable limitation of the visual field, and complete dyschromatopsia. Ophthalmoscopically, the optic discs were soft-edged, the retinal veins dilated, and the retinal arteries shrunken. The diagnosis was made of optic neuritis with incomplete temporal hemianopsia, due to a lesion involving the chiasma. Cure was complete at the end of several weeks, despite some residual pallor of the optic discs.

Aniline oil, as the author points out, results from a mixture of amido-benzol and metaparaorthotuloidine in variable proportions, and this, combined with impurity of the products, individual differences, and so forth, explains the variety of the phenomena and the greater or less frequency of the intoxication.

A. ANTONELLI.

Fleischer, B.—Two further cases of greenish colouration of the cornea. (*Zwei weitere Fälle von grünlicher Verfärbung der Cornea.*) *Klin. Monstbl. f. Augenheilkunde*, 1903.

Kayser, it may be remembered, has recently (*Klin. Monatsbl. f. Augenheilk.*, XL, 2, p. 22, 1902) described a curious case of congenital discolouration of the cornea. The periphery of the cornea was of a greenish hue, and upon using a magnifying glass, this was seen to be due to a number of yellowish spots lying partly behind and partly in front of the membrane of Descemet. Two further cases of the same kind are now published by Fleischer. The discolouration occurred towards the periphery of the cornea under the form of brownish-green dots, which became smaller the nearer they approached the centre of the cornea. One patient suffered from multiple sclerosis, and the other from general nervous manifestations.

Lodge, Samuel.—A case of thrombosis of the cavernous sinuses. *Journal of Laryngology, Rhinology, and Otology*, July, 1903.

Lodge gives a careful account of a case of thrombosis of the cavernous sinuses occurring in a woman, 41 years of age.

The earlier symptoms included neuralgia of one side of the face and forehead, abscess in one tonsil, œdema of both lids and conjunctiva, and some rise in bodily temperature. When examined by Lodge, both eyeballs were thrust forward and their movements were markedly limited, the eyelids and conjunctiva were red and œdematous, and there were no gross changes in the fundus. The root of the nose was œdematous, as were also the parts over the pterygoid and malar regions. Pus was oozing from the socket of one molar tooth; the left tonsil was swollen and reddened; and there was a swelling on the left side of the palate. Temperature, 102°F. Antistreptococcic serum was injected, without any re-action. On the sixth day after admission, a quantity of pus was evacuated from the palate, and drainage established by passing a tube through the soft palate behind the ramus and out through an incision at the angle of the jaw. Five days later, pus was let out from both orbits. The patient died 20 days after admission and 54 days after the beginning of the illness. The *post-mortem* examination revealed diffuse, purulent leptomeningitis, a collection of pus over each frontal plate, caries of the cavum sellæ, and septic thrombosis of the cavernous and of some other sinuses.

Wiener, Meyer.—Fatal hæmorrhage from the conjunctiva in the new-born, with report of case. *The American Journal of Ophthalmology*. March, 1903.

Two drops of a 2 per cent. solution of silver nitrate were instilled into each eye of a baby immediately after birth, a prophylactic measure rendered necessary because the mother was suffering from gonorrhœa and chancroids. On the following morning, the baby's eyelids, face, and pillow, were found to be covered with blood. The bleeding had been first noticed one hour after birth. Wiener saw the case about ten hours after birth, and found the palpebral conjunctiva coated with a white membrane, due apparently to a slough of the epithelial layer. He prescribed adrenaline chloride (1 in 3,000), and iced water applications. On the following day a slow oozing from the conjunctiva was still present. A 1 to 1,000 solution of adrenaline was therefore prescribed, and a tight compressive bandage applied over the lids. Next morning bandage and pillow were again soaked with blood. No ulceration or abrasion was to be found, and the blood seemed to come from the entire surface of the conjunctiva. The eyelids were then rubbed with stick alum, but without effect as regards the bleeding. Pure adrenaline chloride was applied. Next day the conjunctival sac was washed out with a solution of gelatine, which appeared to check the hæmorrhage. The latter, however, recurred, and as the baby was becoming

extremely anæmic, normal salt solution was injected *per rectum*. Other measures, including the administration of calcium chloride, were tried, but the baby died six days after birth. A *post-mortem* examination showed the organs to be normal, and no internal hæmorrhages to be present. Microscopical examination of the conjunctiva showed nothing abnormal. Wiener believes that the use of silver nitrate was the immediate cause of the conjunctival hæmorrhage, although he admits also a pre-disposition of the child to bleed. It is perhaps a little unfortunate that nothing whatever is said with regard to the presence or absence of syphilis.

Corda, G.—An interesting case of acute Iodism, with anterior polar opacity of the crystalline lens. (Interessante caso di iodismo acuto, con apacamento polare anteriore del cristallino). *Annali di Ottalmologia*, 1903, fas. 5-6, p. 277, 283.

After having recalled the experimental work of various authors on toxic cataract, Corda relates the case of a man, aged 43 years, affected with acute iodism, who presented for about a week a slight opacity of the anterior layers of the crystalline lens. Sight was reduced to 2/60. At the end of about a fortnight vision had become normal and the media perfectly clear.

A. ANTONELLI.

Kipp, Charles J.—The mental derangement which is occasionally developed in patients in Eye-Hospitals. *Archives of Ophthalmology*, July, 1903.

Kipp gives details of ten cases where psychoses came on in patients whose eyes had been wounded, surgically or as the result of accident. He adds particulars of two cases where similar symptoms supervened in patients confined to hospital by reason of ulcerative keratitis. Some of these patients occupied darkened rooms; others were treated in cheerful and well-lighted rooms. Some were in bed, but others were sitting or walking about the wards. One of Kipp's patients only had both eyes bandaged at the time mental symptoms developed. A solution of atropine had been used several times a day in most of the cases, but in a few no mydriatic of any kind had been used before the mental attack. None of the patients were drunkards; indeed, some were total abstainers from alcohol. Males predominated, and the majority of the sufferers were over fifty years of age. Recovery was swift when patients could be sent back to their own homes. Improvement was secured, also, by letting the members of their household stay with them and by transferring them to other

quarters. Kipp concludes that the "psychoses were the result of a change in the patient's environment and to an increasing longing to get away from the new surroundings." It is significant that the author has never seen mental disturbances in those operated upon or treated at their own homes.' In the management of this form of *nostalgia*, as Kipp calls the condition, restraint and hypnotics are needed. The quickest way to restore mental equilibrium, however, is to return the patient to his home, or if that is not possible, to transfer him to another house, or to another room, and to let him have the company of some members of his own household.

Enslin, Dr.—Diagnostic value of old Tuberculine in Parenchymatous Keratitis. *Deutsche Med. Woch.*, 1903, No. 8.

At the instance of Professor Uhthoff, Enslin injected all (24) cases of parenchymatous keratitis which came to the Breslau clinic during the last few months, without exception, with tuberculine. In all cases (save one which was not clear) in which no re-action followed, hereditary lues could be proven, and in those which re-acted typically, other signs of tuberculosis could be found. Enslin advocates tuberculine injections, which, with proper care, are harmless, in doubtful cases as a diagnostic means.

Annals of Ophthalmology, April, 1903, p. 263.

NOTES AND ECHOES.

The President of the
Ophthalmological
Society.

THE Address of the President of the Ophthalmological Society comes with especial force, inasmuch as Mr. John Tweedy couples, during the forthcoming year, the position mentioned, with the distinguished position of President of the Royal College of Surgeons of England. His philosophical address dealt with the relations of ophthalmology to general medicine and surgery and to public health. The wide bearing of this thesis renders it almost hopeless to attempt an adequate discussion within the four walls of a formal address. Apparently recognising that fact, Mr. Tweedy concentrated his main attention upon one or two points, notably the inwardness of scientific specialism and the optician question. With regard to the first-mentioned point, he raised the oft-needed note of warning against treating the eye as a

thing apart from general medicine and pathology. That narrowing influence was more and more apparent in the tendency in some quarters to split ophthalmology into two parts—to wit, the optical, and the medico-surgical. Mr. Tweedy insisted upon the absolutely inseparable nature of the two things, which became more apparent with every fresh scientific discovery. His emphatic conclusion was that optical defects of the eye can never be safely or satisfactorily treated apart from knowledge of the diseases of that organ, and of their relation to the morbid processes of the body as a whole. And so by easy stages Mr. Tweedy led up to his onslaught on the sight-testing and prescribing optician, or “ophthalmic optician,” or “optologist,” or whatever other fanciful name he may have taken unto himself. To say that he smote this new-fangled species of charlatan hip and thigh, would be to put the matter mildly. Most of our readers have already had the pleasure either of reading or of actually hearing Mr. Tweedy’s condemnation of that most curious hybrid—the spectacle quack. We trust his plain-spoken warning will reach the public, and that we shall never more see any members of the medical profession trafficking with this unclean thing, as, unhappily some of them have done in the past.

* * * *

**The Royal College
of Surgeons.**

THE opinion of the English College of Surgeons has been conveyed to the Spectacle Makers’ Company in answer to a request from that body to criticise the proposed alterations in its diploma. The alteration, as readers know, is to include the subject of sight-testing in their examinations, and to extend their diploma by certification of efficiency therein. The gist of the answer of the College lies in the view that “it is against public safety and welfare that anyone should be deemed competent to order or prescribe any medical or surgical remedy or appliance, who has not had an efficient medical and surgical training.” Among other arguments advanced in support of that proposition is the unanswerable one that in many grave affections of the eye, both local and constitutional, the earliest and most obtrusive symptom is impairment of sight. Naturally both patient and optician will attribute the failure of sight to old age or other defect that can be remedied by spectacles. The mistake, which may involve loss of sight, is found out later, by consulting an ophthalmic surgeon. The Spectacle Makers’ Company want to put the cart before the horse. The appropriate and logical order of the procession should be from the house of the ophthalmic surgeon to the shop of the optician. If we mistake not, the law says so, too. The City Company wants to put the optician first, *mais nous verrons*.

Mr. R. Brudenell
Carter.

THE retirement of Mr. R. Brudenell Carter from active practice will leave a gap not only in the ranks of ophthalmologists, but also in the wider medical world. It has been given to few men to lead a more varied and distinguished career. Mr. Carter became M.R.C.S. of England in 1851, and F.R.C.S. in 1864. After serving in the Crimea with the local rank of Staff-Surgeon in 1855-6, he settled in London in 1868, and was elected Surgeon to the South London Ophthalmic Hospital (now Royal) in 1869, a post which he resigned later, in consequence of the then unfitness of the building for medical purposes. His chief appointment came in 1870, when he was appointed Ophthalmic Surgeon to St. George's Hospital, a connection which was not broken until his retirement as Consulting Surgeon in 1893. From 1886 to 1898, Mr. Brudenell Carter sat as a member of the General Medical Council. He was an original member of the Ophthalmological Society, from which he retired, however, on account of the attitude of the Society towards the homœopaths. In 1876 he was President of the Ophthalmological Section of the International Medical Congress in Philadelphia, and a Vice-President of the International Ophthalmological Congress at New York in the same year. Space does not permit us to recount the learned societies with which Mr. Carter has been connected. As a writer, he is endowed with a rare literary faculty, which he combines with the power of keen and incisive oratory. For many years he was on the staff of the *Times*. One of his best-known articles was an article in the *Contemporary Review* in answer to a slanderous attack on the London medical students in the *Fortnightly Review*, under the editorship of Mr. John Morley. His chief contribution to ophthalmological science was perhaps his "Practical Treatise on Diseases of the Eye."

The following has been communicated by one who enjoyed a long and close personal and professional relationship with Mr. R. B. Carter :

AN eminent ophthalmic surgeon, Mr. R. Brudenell Carter, has just retired from the active practice of his profession. He has been conspicuously before the public and the profession for many years, and has contributed largely to medical, surgical, and literary research, earning for himself a wide and worthy reputation, and a name held in honour by his compeers and the public. While practising in Nottingham, he (with the late Sir Tindal Robertson, M.D.) founded the Nottingham and Midland Eye Infirmary. It is given to few men to write and to speak so well and successfully as Mr. Carter, and those who know him best like him most, and will always regard him as an ornament of his profession. A man of his

varied acquirements must always remain, in many senses, an active man.

* * * *

Home and Hospital
for Ophthalmic
Children.

THE *Observer* of November 1st contains a notice of a forthcoming bazaar on the 26th and 27th November, at the Great Central Hotel, in aid of the Home and Hospital for Ophthalmic Children, Portobello Road, Notting Hill. This is the second bazaar held for the benefit of that particular charity. It is hardly necessary to say we fully sympathise with the movement in question, but it is to be regretted that the *Observer* adds to "Ophthalmic Children" the qualification "of all denominations." The Home certainly was founded originally for the benefit of Roman Catholic children, and was one of several such institutions as the direct outcome of Mr. Sydney Stephenson's Government Report on *Ophthalmia among the Poor Law children of the Metropolis* (1897). The error in description—assuming it to be such—is somewhat serious.

* * * *

The School Board
for London.

THE London School Board do nothing by halves. After long pondering it has come upon them that the eyesight of school children demands skilled supervision in any proper system of public education. Whereupon they have forthwith swamped the eye hospitals and the eye departments of general hospitals with a flood of school children sent thither to have their sight tested. This proceeding naturally throws a grievous burden upon the already over-worked surgeons and their assistants. The present machinery of the London Board is adequate to detect certain gross defects of sight, and consists of simple tests carried out in the first place by teachers and supervised by half a dozen oculists who receive a miserable pittance for their work. Clearly, something more is wanted. It might be desirable to establish in various convenient parts of London what may be called "Refraction Bureaux," each presided over by a properly remunerated and skilled medical specialist. The children could then be sent when necessary to the nearest bureau, at the hour and day most convenient to the School Authorities. The present system throws a really intolerable burden upon the hospitals, among which the London Hospital has with characteristic promptitude made haste to establish its claim as the chief sufferer. Then again, it is no use finding out errors of sight unless spectacles are forthcoming when wanted, a point which affects the pocket of poor parents. Some scheme will have to be adopted with a view of providing out of the public purse either a part or the whole of the cost of the spectacles. The Surgical Aid

Society has done a good deal in that direction, for during the past twelve months it has given no less than 2,708 pairs of spectacles to the poor. It would be, perhaps, better to augment the funds of the excellent Society mentioned rather than to found a new "Spectacle Society," the idea for which has been mooted.

* * * *

It will be remembered by readers that upon Mr. Nettleship's retirement from active practice a year or two back, his friends and admirers determined to found a suitable memorial of his services to scientific medicine. Accordingly, a subscription list was started, and a sum collected of some hundreds of pounds, which is to be devoted to the advancement of ophthalmic work. The fund has been entrusted to the Ophthalmological Society, who have appointed three trustees. They have determined to devote the interest of the capital sum annually to the purchase of a Gold Medal to be bestowed upon that British subject who has done the most scientific work during a preceding period of one or several years. The final details of the award are still engaging the attention of the Ophthalmological Society.

ANSWERS TO CORRESPONDENTS.

DR. ANTONELLI (Paris).—Abstracts safely received.

DR. D. S. SAGER (Ontario, Canada).—The contents of your letter have been much appreciated.

A. B. C. (London).—The matter you mention was touched upon last month in our "Notes and Echoes."

DR. DARIER (Paris).—We shall await an answer to our questions.

DR. A. STEPHENSON (London).—Incorporated in present issue.

DR. W. E. THOMSON (Glasgow).—We shall publish some of the abstracts in our next number.

DR. D. WALSH (London).—We shall be glad to open up our columns to the suggested correspondence.

OPTICUS (London).—You will probably find what you want in the trade journals.

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